



Environmental Master Plan

City of Windsor Environmental Master Plan

Submitted To:
Environmental Services, City of Windsor

Submitted By:
DPRA Canada

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The Great Lakes Sustainability Fund is a component of the Federal Government's Great Lakes program. The Sustainability Fund provides resources to demonstrate and implement technologies and techniques to assist in the remediation of Areas of Concern and other priority areas in the Great Lakes. The report that follows was sponsored by the Great Lakes Sustainability Fund and addresses environmental issues in the Detroit River Area of Concern in Windsor, Ontario. Although the report was subject to technical review, it does not necessarily reflect the views of the Sustainability Fund or Environment Canada.

FOREWORD

This report represents the City of Windsor's first Environmental Master Plan (EMP). The Plan brings together a host of ongoing environmentally-related programs from across the City and suggests a number of new initiatives to support the City in its quest for improved environmental performance.

Windsor, as one of Canada's 15 largest cities, is unique in that it is a city of neighbourhoods, is Canada's leading port of entry from and into the United States, has a series of large waterfront parks, a vibrant downtown area and is surrounded by rich agricultural lands. Recent population and employment forecasts illustrate upward trends in the City and surrounding municipalities to 2016 and beyond. Therefore, a fast-growing population base coupled with its expanding employment put Windsor in a unique position to develop its first Environmental Master Plan.

The purpose of the Environmental Master Plan is to set out a series of potential actions for the municipality to take, over the short- and long-term, to improve the City's environment. Most of the actions suggested in the EMP are related to the Corporation of the City of Windsor's activities and operations. The Plan was developed to focus on the City's operations so that the City may lead by example for residents, industry and stakeholders.

The EMP is directly linked to the Community Strategic Plan and other Master Planning documents and provides a framework for the City's environmental decisions. The strategic direction for the Environmental Master Plan reflects the sentiments described above and reads:

"The City of Windsor is committed to being a leader through its daily actions and services to enhance the environment for present and future generations."

This Environmental Master Plan was developed with extensive input from residents and stakeholders who are interested in and concerned about Windsor's environmental future. Residents and stakeholders attended open houses and a series of workshops, provided comments and gladly participated in an Environmental Attitudes Survey. All of this input was used to develop the Environmental Master Plan. Without the support and advice of residents, stakeholders and the three City committees associated with the EMP, the Plan would not reflect the breadth and depth of environmental issues that are covered in this report. The project team wishes to acknowledge the support and guidance provided by all of the stakeholders, committee members, staff and Council listed in Appendix B.

The implementation details provided in Section 4 of the EMP are a starting point and will be refined in a separate, supporting *"Implementation Plan."*

This Environmental Master Plan was provided for the review of City Council, residents, stakeholders and other interested parties. The EMP was tabled at a July 10, 2006 meeting of Windsor City Council and circulated for public review and comment over a two week period. A final open house was held on July 22nd to circulate the EMP and receive comments. The Environmental Master Plan was unanimously approved at Council on Monday, July 24, 2006.

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SECTION 1: INTRODUCTION

1.1. OVERVIEW

This report is the first complete version of the City of Windsor's Environmental Master Plan (EMP). The Plan brings together a myriad of environmental programs, policies and initiatives from across the City's operations and suggests actions to strengthen the City's environmental performance. This is the City's first Environmental Master Plan; it is to be a guiding document for the Corporation of the City of Windsor's environmentally-related activities over the next five years and beyond.

The heart of the Environmental Master Plan are the strategic direction, guiding principles, goals and action plans, beginning in Section 3. The Plan is based on an understanding of local environmental issues and a recognition that the Municipality wants to lead by example with respect to environmental actions.

The actions suggested in the Environmental Master Plan are based on background research, a series of interviews with staff and Councillors, the results of the Environmental Attitudes Survey (December 2005), comments received at public open houses and a series of visioning and action-planning workshops with staff, Council and stakeholders.

The report is organized as follows:

Section 1: Introduction

- An introductory section defining the scope of the Environmental Master plan and outlining the process to develop it.

Section 2: Defining Windsor's Current Environmental Context

- An overview of pressing global, national, provincial and local environmental issues; and
- An overview of the environmentally-related programs, policies and initiatives at the federal, provincial and municipal level.

Section 3: Planning Windsor's Environmental Future: A Corporate Environmental Commitment

- A strategic direction, guiding principle and goals to frame the Environmental Master Plan; and
- A series of twenty-two action plans to guide the Corporation's environmental activities.

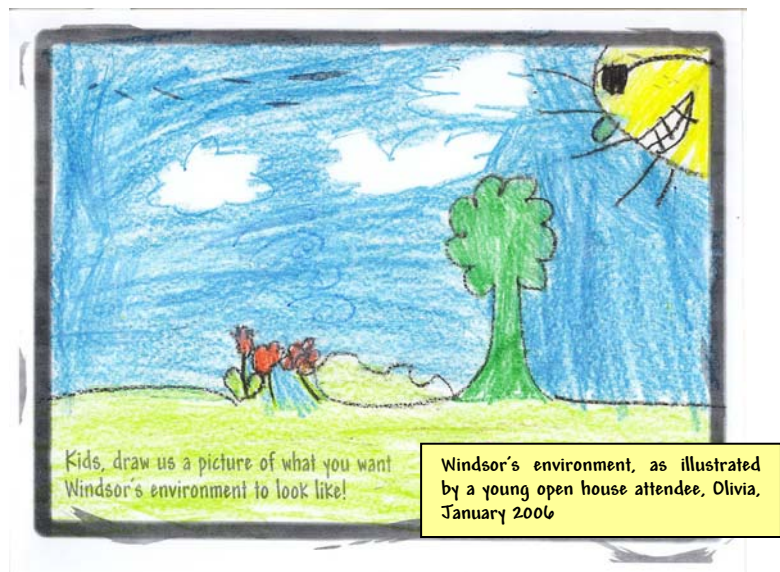
Section 4: Making the Plan a Reality: Implementing the Environmental Master Plan

- A consolidation of ideas for the implementation structure associated with the Environmental Master Plan; and
- Suggestions for monitoring, reporting, and communicating the progress of the EMP's implementation.

1.2 WHAT IS THE ENVIRONMENTAL MASTER PLAN?

The Environmental Master Plan (EMP) is a guiding document for the City of Windsor with respect to various environmental issues. Windsor decided to create an Environmental Master Plan to lead by example. The City serves over 210,000 residents and operates numerous facilities. Therefore, the Corporation's decisions and actions affect the entire community and have a direct impact on the environment. The EMP is focused on actions that the Corporation of the City of Windsor can take to protect and improve the environment within the City of Windsor over the short- and long-term.

The EMP was developed in accordance with the goals and objectives established in the Official Plan and the Corporation's Community Strategic Plan.



The completion of an Environmental Master Plan is one of City Council's strategic priorities.

ANTICIPATED OUTCOMES OF THE ENVIRONMENTAL MASTER PLAN

The anticipated outcomes of the EMP are:

- Streamlined City-wide environmental actions
- Improved environmental performance for the City
- Increased environmental awareness in the community
- Reduction in overlap and gaps in municipal environmental service delivery

PHASES OF THE ENVIRONMENTAL MASTER PLAN

The Environmental Master Plan process began in July 2005 and is expected to be completed in the summer of 2006. Further details about the process to develop the Environmental Master Plan are included in Appendix A.

The project was designed in four phases:

Phase I: Developing the EMP Process (July – Sept. 2005)

Phase II: Developing a Vision, Goals and Principles (Sept – Dec '05)

Phase III: Action Planning and Developing Performance Measures (Jan. – Mar. 2006)

Phase IV: Developing and Finalizing the EMP (Mar. – June 2006)

HOW DOES THE CITY DEFINE “ENVIRONMENT”?

The preamble to the Environment section of the Official Plan for the City of Windsor states:

“A healthy and sustainable environment represents a balance between human activities and natural features and functions. In order to attain this balance, Council will enhance the quality of Windsor’s natural environment and manage development in a manner that recognizes the environment as the basis of a safe, caring and diverse community and a vibrant economy.”

The definition included in Canada’s Environmental Assessment Act is consistent with the City’s overview. “Environment” means the components of the Earth, and includes: (a) land, water and air, including all layers of the atmosphere; (b) all organic and inorganic matter and living organisms, and; (c) the interacting natural systems that include components referred to in paragraphs (a) and (b).” (CEAA, 1992). For the purposes of this report, environmental issues related to land, air, water, energy and human activities have been taken into account.



KEY ELEMENTS OF THE ENVIRONMENTAL MASTER PLAN

There are a number of unique elements to the City’s Environmental Master Plan:

The EMP is a plan for local leadership

The Environmental Master Plan is the first Plan of its type developed for the City of Windsor. It represents a unique opportunity for the municipality to take action on priority issues of local concern and municipal responsibility. The City, by following the action plans in Section 3, will lead by example through its commitment to environmental sustainability.

The EMP was developed with community interests

The Environmental Master Plan integrates feedback from residents and interested stakeholders. A City-wide environmental attitudes survey was completed to assess areas of local environmental concern and interest. Stakeholders were involved at key junctures through four evening workshops. In addition, open houses were public forums for interested residents to voice opinions, share ideas and contribute to the development of the Environmental Master Plan.

The EMP will measure progress

A number of reporting and monitoring options are suggested in the action plans associated with the Environmental Master Plan. An implementation plan will measure the progress of the actions included in the EMP and a regularly published State of the Environment Report will track environmental indicators over time. In addition, environmental attitudes will be traced through a regular survey of resident and staff opinions on local environmental issues

SECTION 2: DEFINING WINDSOR'S CURRENT ENVIRONMENTAL CONTEXT

In late 2005, when residents were surveyed about the overall quality of Windsor's environment, only 4.8% believed that it was better than that of other Ontario cities. However, when asked what specifically they did like about Windsor's environment, participants did not hesitate to list a number of features and qualities related to the City's air, land and water. This section lists and describes many of the environmental issues and initiatives in the City of Windsor.

The results of the Environmental Attitude Survey also showed that many participants felt that the Environmental Master Plan was a step in the right direction and were hopeful that it would help to improve the City's environment. Most respondents felt that continuous funding and dedicated, strong leadership were required to realize environmental improvements. Therefore, the Environmental Master Plan defines a series of actions that the municipality and its decision makers can take to improve the environment. However, the municipality does not exist, nor does it act, in a vacuum. Responsibilities for environmental actions and priority setting are shared by provincial and federal governments. In addition, there is a decision-making and collaborative role for surrounding municipalities with respect to common environmental issues. Therefore, in recognition of the linkages, this section defines some recent national and provincial initiatives that may affect the implementation of Windsor's Environment Master Plan. Alongside those initiatives, local environmental programs, policies and initiatives are described.

For ease of reference, initiatives and issues are grouped according to the four major themes of the EMP: air, land, water, energy.

2.1 AIR

CONTEXT

Throughout the public consultation associated with the Environmental Master Plan, air quality was the most frequently heard environmental challenge facing the City of Windsor. When asked what the single-most important environmental issue facing Windsor was, over 66% of telephone respondents to the Environmental Attitudes Survey (DPRA, 2005) responded "air quality." Local industrial pollution, cross-border emissions and emissions from transportation corridors are some of the sources of air pollution in the City. Transportation-related air quality issues remain paramount in the City; the Windsor-Detroit Gateway is the busiest international trade corridor in North America and is Canada's largest border crossing. Over 16 million cars and trucks cross the Windsor-Detroit Gateway every year (Ontario, 2005). Health and lifestyle concerns about poor air quality were raised and residents and staff turn to the City for leadership to improve the City's air quality.



A 2003 report by the Ontario Ministry of the Environment lists the concentrations of various continuous pollutants in Ontario for 2003 and shows 10-year trends. Air monitoring stations in Windsor Downtown and/or Windsor West recorded the highest concentrations of: ozone (O₃), fine particulate matter (PM_{2.5}), nitric oxide (NO), nitrogen dioxide (NO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and sulphur dioxide (SO₂) than any other Ontario city. Ten year trends consistently place Downtown Windsor's pollutant concentrations as the highest in the Province (1994-2003).

FEDERAL AND NATION-WIDE INITIATIVES

In an effort to target cross-border air pollution, Canadian and American federal governments are working together on the **Border Air Quality Strategy (BAQS)**. BAQS, in place since 2003, sets out a commitment to develop joint, innovative air quality pilot projects in the Great Lakes area.



The Canada-U.S.-Ontario-Michigan Border Transportation Partnership consists of the U.S. Federal Highway Administration, Transport Canada, the Ontario Ministry of Transportation and the Michigan Department of Transportation. The **Bi-National Partnership** is moving forward to implement a 30-year transportation strategy addressing the various challenges at the Windsor-Detroit Gateway, including free and secure trade, security, environmental concerns and community impacts. A coordinated bi-national environmental assessment is underway to help decide the location of a new or expanded international crossing; the environmental assessment is expected to be completed in 2007.

The **Partners for Climate Protection (PCP)** program is “a network of more than 132 Canadian municipal governments who have committed to reducing greenhouse gases and acting on climate change. PCP is the Canadian component of International Council for Local Environmental Initiatives’ (ICLEI) Cities for Climate Protection (CCP) network that comprises more than 600 communities world wide making the same efforts.” PCP receives financial support from the Government of Canada through the Climate Change Action Fund (CCAF).

At the time of writing, the federal response to climate change issues is under flux. Funding for the recently developed One Tonne Challenge, a consumer action program to reduce greenhouse gas emissions, has been cancelled and the current federal response to the Kyoto Protocol is to build a “**Made-in-Canada Plan** for clean air, water, land and energy.”

Volatile Organic Compounds (VOCs) are associated with smog formation; in response, the federal government adopted standards and a series of actions to reduce air pollution, “**Canada Wide Standards for Particulate Matter (PM) and Ozone**” in June 2000.

The **National Pollutant Release Inventory (NPRI)** is a “legislated, nation-wide, publicly-accessible... database of information on annual releases to air, water, land and disposal or recycling from all sectors - industrial, government, commercial and others.” (Environment Canada, 2006). The **National Air Pollution Surveillance (NAPS) Network**, established in 1969, is a joint project of the federal and provincial governments that provides “long-term trend information to evaluate the progress of air pollution abatement measures and to direct abatement action where needed.” (Environment Canada, 2006)

PROVINCIAL INITIATIVES

In response to its commitment to the Canada-Wide Standards for Particulate Matter and Ozone, the provincial government developed **Ontario’s Clean Air Action Plan** in 2004. The Plan serves as an implementation plan for actions suggested in the federal document. Also in 2004, the provincial government developed “**Ontario’s Industry Emissions Reduction Plan: Proposal for a Nitrogen Oxide (NO_x) and Sulphur Dioxide (SO₂) Regulation.**” This document proposed to set caps for NO_x and SO₂ emissions, by industrial sector.

Provincially, the Ministry of Municipal Affairs and Housing has published “**Building Strong Communities: Municipal Strategies for Cleaner Air**”, which discusses the importance of “fleet greening” for municipalities. Numerous other provincial initiatives to help clean Ontario’s airsheds are underway including the **Drive Clean** program, **Ontario’s Emissions Trading Registry**, air quality monitoring and the issuance of Certificates of Approval to “facilities that release emissions to the atmosphere, discharge contaminants to ground and surface water, provide potable water supplies, or store, transport, process or dispose of waste”.

The Ministry of Environment (MOE) also notifies Ontario residents when poor air quality is expected. If forecasts indicate that the **Air Quality Index (AQI)** may exceed a reading of 50, over a wide geographic area, the MOE will declare either a “smog watch” (50 per cent chance that poor air quality will occur within the next three days) or a “smog advisory” (a high probability that poor air quality will occur within next 24 hours). The City distributes information about smog advisories. A pilot program saw Transit Windsor providing free transit on smog action days during summer 2003.



LOCAL INITIATIVES

Some of the ongoing local initiatives in Windsor to combat air pollution and improve the health of the region's airshed include:

- **Anti-Idling By-Law** – By-law #233-2001 to Prohibit Excessive Idling of Vehicles and Boats was passed on June 18, 2001. According to this by-law, any person who causes or permit a vehicle or boat to idle for more than five minutes in an hour is guilty of an offence.
- **Community-Based Strategic Rail Study – Proposal:** Increased trade flows through the City of Windsor bring some negative impacts, most notably traffic congestion, decreased road safety and poor air quality. Review of the environmental impacts of present and future rail operations is included in the scope of this Community-Based Strategic Rail Study (Project).
 - Among the expected outcomes of the Project is the reduction of adverse environmental impacts of transportation in two important ways:
 - Reducing impacts on land use in proximity to rail operations, as they relate to noise, vibration, trespassing and safety, visual impacts, drainage and stormwater management, hazardous goods movement, and soil quality.
 - Reducing of the number of at grade rail crossings in Windsor and using abandoned rail corridors to fill gaps in the arterial roadway network both add to operational efficiency and connectivity of Windsor's roadway system. (This, in turn, is expected to enhance roadway level of service, transit operations and routes for cycling and walking. The resulting transportation system improvements will help reduce air pollutants, fuel consumptions, and travel delays, and will reduce circuitry and trip lengths). Rail rationalization within the City also will reduce interchanges with other traffic, so that car, bicycle, scheduled transit buses, and pedestrian traffic all can flow more smoothly and safely.
- **Clean Air Day** - Transit Windsor participated in Clean Air Day on June 8, 2005 alongside the Canadian Urban Transit Association (CUTA) and a number of other government, business and health organizations to encourage Canadians to consider sustainable transportation as their contribution to a healthier environment. Clean Air Day, is part of Environment Week (June 1-7); it started some years ago in several Canadian municipalities as a day of grassroots initiatives to get out of their single-occupant vehicles and walk, bike or ride, as the first step in a commitment to use sustainable transportation and ensure an improved quality of life.
- **All Way Stop Committee** – In 2005, the All Way Stop Review Committee and City Administration made some minor changes to the City's existing All Way Stop Policy to make its policy consistent with the trends in other Ontario municipalities. These changes include the ban of all new all way stops on transit routes. All way stops will not be used as a speed control measure, and all way stops will not be allowed within 250 metres of other all way stops or traffic signals.
- **Schwartz Report** – In January 2005, Mr. Sam Schwartz presented a report to City Council to review and evaluate existing proposals for a new border crossing, and to examine and recommend ways of reducing international truck traffic on the City's streets. Windsor City Council unanimously endorsed Mr. Schwartz's report and is working towards a solution to the border crossing issue.



2.2 LAND

Windsor is blessed with a number of rare and unique ecological natural areas; examples of these areas include; Peche Island Natural Park, the Carolinian Oak Stand in Memorial Park and the Ojibway Tall Grass Prairie Complex which includes Ojibway Park, Joy Woods, Black Oak Heritage Park, Tall Grass Prairie Park and the Spring Garden Area of Natural and Scientific Interest. The complex also includes the Ojibway Prairie Provincial Nature Reserve (owned by the Province of Ontario but managed by the City's Department of Parks and Recreation). The City's riverfront, much of it recently reclaimed as recreation and park lands, is also a unique feature.

Trees across the City, and the very large vegetation complex in the west end, act as a vegetation buffer to cleanse the air by removing particulate matter and airborne toxins. Throughout the development of the Environmental Master Plan, comments were received about a proposal to build a truck route through sensitive natural areas. Many residents were afraid of the potential of new routes to affect local ecosystems, flora and fauna.

The Land Use preamble to the City's Official Plan states that "...Council will manage development through an approach which balances environmental, social and economic considerations. As such, the Land Use chapter of this Plan promotes a compact urban form and directs compatible development to appropriate locations within existing and future neighbourhoods." Many of the action plans in Section 4 of the EMP relate to the creation of sustainable neighbourhoods.



The term "Greenway System" is used in the Official Plan as a term to define "a planned network of natural environment and recreational elements." These include community and regional parks, recreation ways, natural heritage sites and waterfront recreation areas. For consistency purposes, this term has also been adopted in the EMP and has been expanded to include street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits.

FEDERAL AND NATION-WIDE INITIATIVES

In June 2005, the Government of Canada, the Province of Ontario and the Association of Municipalities of Ontario entered into an agreement for the **transfer of federal gas tax revenues** under the "New Deal for Cities and Communities." The purpose of the transfer was to fund environmentally sustainable infrastructure over the next five years. Initial estimates suggest that approximately \$1.9 billion (equivalent to 5 cents-per-litre) will flow to Ontario municipalities. In Windsor, the initial year's funding was used for sustainable capital projects and the 2006 funding will be used to upgrade transit systems and routes in 2007. In response to their commitment to reduce Greenhouse Gas Emissions (GHG's), the federal government intends to provide similar funding to encourage transit usage by requiring municipalities to reinvest in their transit systems and developing a Ridership Growth Strategy. Specific environmental and economic performance goals, as well as performance measurement are funding requirements.

The **Canada Strategic Infrastructure Fund** represents a \$4 billion investment by the federal government to large-scale infrastructure projects across the country. The outcomes of the investment must relate to:

- Safer and faster movement of people and goods on Canada's major land transportation routes.
- Reduced production of greenhouse gases and airborne pollutants.
- More-effective urban development.
- Increased economic activity including tourism.
- Use of innovative technologies and practices to minimize green house gas emissions

PROVINCIAL INITIATIVES

Places to Grow Act, 2005, S.O. 2005, c. 13 is part of the provincial government's strategy to accommodate and manage future growth by encouraging rational and strategic long term planning in the Province (the Act applies to all of Ontario although only Golden Horseshoe currently has a Plan). The Ontario government has committed itself to making efficient use of existing infrastructure and preserving natural and agricultural resources. Ontario is in the process of passing a series of legislation that will see sustained and controlled growth that is both ecologically and economically successful. The Act is aimed at preventing urban sprawl, encouraging investment, protecting environmental and agricultural lands, and making sure that the 4 million new Ontario residents who are set to arrive over the next 25 years have strong and well managed communities to call home.



Ontario's decision to adopt suitable style growth and entrench it in legislation is a result of a great deal of preparation. The most influential aspect of this new plan came in the form of the **Places to Grow discussion paper**. This, in part, was spurred on by the McGuinty government's **Greenbelt Plan** (which the *Places to Grow Act* will complement), which called for the creation of a 600 000 ha greenbelt from Niagara Falls to Lake Scugog.

The **Provincial Policy Statement (PPS)** "provides direction on matters of provincial interest related to land use planning and development, and promotes the provincial "policy-led" planning system." The new PPS came into effect on March 1, 2005. Section 3 of the Planning Act mandates that planning decisions "shall be consistent with" the new PPS. The PPS includes revised policies on complex environmental, social and economic issues that affect community planning, such as: the efficient use and management of land and infrastructure; protection of the environment and resources; and ensuring appropriate opportunities for employment and residential development, including support for a mix of uses.

Windsor has a number of **brownfields** (i.e., lands on which industrial or commercial activity took place in the past and that may need to be cleaned up before they can be redeveloped). To encourage redevelopment, Ontario's environmental legislation provides general protection from environmental orders for historic contamination to municipalities, creditors and others. The Ontario Minister of Municipal Affairs and Housing has the lead in co-ordinating provincial action on brownfields issues.

LOCAL INITIATIVES

As Windsor and the surrounding areas grow, it will be important to improve the Greenway System by strengthening existing linkages and creating new ones. The benefits of achieving improved connectivity include:

- Increased opportunities for biodiversity because of increased gene flow among populations
- Provision of a mix of habitats that are needed for certain species' life cycles
- Pollution abatement
- Safe recreation areas

There is general interest in improving connectivity and ringing the City with greenways. The City and its partners are in preliminary discussions about the potential for a regional approach to development. This is further developed in Objective Be.



In order to protect its natural environment areas, the City recently introduced By-Law #231-2005 to protect **Natural Environment Areas in the City of Windsor**. It is a by-law to protect natural areas regardless of ownership status (public/private). Natural Environment Areas include Environmental Policy Areas, Natural Heritage, and Candidate Natural Heritage Sites. This by-law covers the protection of trees and natural vegetation that includes woodlands, prairies and wetland areas.



The City has developed a **Bicycle Use Master Plan (BUMP)**. BUMP, a product of an extensive public consultation program, is intended to be a statement of the City of Windsor's commitment to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists. As a 20-year guide, this Plan establishes a vision, guiding principles and goals for cycling in Windsor. The Plan calls for a cycling network of bike lanes, multi-use trails and signed bike routes, and provides design guidelines along with specific strategies for improving cycling awareness, the cycling-transit link and end-of-trip facilities.

By providing an implementation strategy and design guidelines to the City of Windsor residents, **Central Riverfront Implementation Plan** helps the City attain its vision of the riverfront. This document serves both as an illustration of design principles and a reference point for the ongoing development with the immediate, staged and long-term implementation.

A **Transit Master Plan** is being developed for the City. The process will result in a Policy Document supported by all community stakeholders and utilized to govern the future development of public transit services. A Ridership Growth Strategy will detail how transit services will be improved and ridership targets met. Supporting policy and initiative areas identified for study are transit oriented land use (TOD - Transit Oriented Development), and Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS) initiatives. Recommendations will include service and technical strategies to reduce the community's auto dependence, which will in turn reduce petroleum fuel consumption and thus GHG emissions. The resulting business plan will address service planning policies, an operational plan, vehicle and infrastructure needs and requisite budget projections for the next 10 years (to 2016).



Parks and Recreation provides residents and visitors with over 3,000 acres of green space in 180 parks featuring gardens, over 35 sculptures, numerous fountains, playing fields and picnic areas. The Department is also responsible for beautification efforts such as planting formal gardens, boulevards and the riverfront with thousands of flowers, plants, and shrubs. **The Windsor Trail**, an interlocking network of biking and walking trails, currently extends along the Detroit River and links many neighbourhoods. Parks and Recreation is also responsible for the care and maintenance of the urban forest with 60,000 trees on streets and an additional 35,000 trees in parks and public spaces.

The City of Windsor has initiated a **Master Planning Study and Class Environmental Assessment Master Servicing Study** to determine appropriate land use for the lands recently annexed from the Town of Tecumseh. These lands are generally bound by Highway 401 to the south, the E.C. Row Expressway to the north, Walker Road to the west and a portion of Banwell Road to the east. They are approximately 2300 hectares in area and include the Windsor Airport.

Environmental health is often defined as the link between changes in the environment and their effects on human welfare. In recognition of this link, the City has a number of by-laws in place including:

- By-law 127-2003: A By-law to Regulate Standing Water in the City of Windsor
- Larviciding program and additional funding to fight West Nile Virus
- Council recently passed a new by-law stipulating a number of limitations on pesticide use (By-law 35-2006)
- The City offers a free Rodent Extermination Program

A number of other initiatives that affect Windsor's land include:

- The **Clean City Committee** is a non-profit organization dedicated to improving Windsor's environment and economy through public education, community beautification, graffiti abatement and litter awareness programs.
- **Stoop and Scoop By-law**: Part IV of a By-Law 245 -2004 (for the Registration and Licensing of Dogs and for the Control of Dogs Generally Within the City of Windsor)
- **Windsor Seen**: This document serves Municipal Urban Design Agenda for the Windsor community. The ideas and projects included in the plan are intended to ensure that Windsor is a competitive location: attractive to live in, move to, invest in, or visit.
- **One Million Trees**: One Million Trees is a coalition of community partners whose goal is to plant one million trees over ten years. It has an environmental and educational component.
- The **Household Chemical Waste (HCW) Depot and Reuse Centre** where residents can drop off, free of charge, paint, fuels, pesticides, home repair and automotive waste, as well as thermometers, pool chemicals, glues, adhesives, driveway sealer, fluorescent lights, and batteries.
- A number of other active community groups who partake in clean ups, monitoring and tree planting.

2.3 WATER

The City of Windsor's northern boundary is the Detroit River, also part of Canada's border with the United States. The river is about 51 km long and is part of the Great Lakes system, linking Lake St. Clair with Lake Erie. The Detroit River's Canadian tributaries include Turkey Creek, Little River and Canard River. Currently, regional surface water - the water in Windsor's rivers, creeks and streams - is rated "poor" to "very poor." According to Essex Region Conservation Authority, "[p]reliminary data suggests that the quantity and quality of our groundwater resources are excellent."

Water quality of the City's waterways (i.e., lakes, rivers, streams) was the second most-frequently reported issue during a recent telephone survey of residents' attitudes towards the environment. Some felt that they "can't take kids to the beach, therefore the City needs need stronger enforced regulations to clean up waterways." However, many other respondents felt that the water quality of the Great Lakes has been improving over time.



A recent report by Environment Canada states that some of the water quality problems in the Great Lakes (i.e. eutrophication due to phosphorus concentrations) have improved, but that the issue of toxic chemicals "overshadow all other problems in the Great Lakes." Recently published national reports mentioned serious concerns about "gender-bending" chemicals. Also known as nonylphenols or endocrine disruptors, these chemicals can mimic hormones and disrupt normal sexual development in organisms. These are a product of cosmetics and detergents and are discharged through the sewage system.

Local water-related issues in Windsor include the City's combined sewer system, sanitary sewer overflow and frequent basement flooding. Other water issues in the community include the proliferation of litter in storm drains and the dumping of oil, gasoline and other substance onto roadways (and eventually into drains). The City has made major strides over the past three decades in improving water quality by reducing sewage discharge into the Detroit River. In addition, the upgrade and expansion of the Lou Romano Reclamation Plant is a major step forward in water quality for the Great Lakes.

FEDERAL AND NATION-WIDE INITIATIVES

The **Great Lakes Sustainability Fund (GLSF)** is a component of the Great Lakes Program's 2020 Action Plan and is administered by Environment Canada on behalf of eight federal government departments. GLSF provides financial support to projects that implement remedial actions to complete the cleanup and restoration of designated Areas of Concern (AOCs) in the Great Lakes Basin, including funding to support the development of action plans for the Environmental Master Plan.



The **Centre for Sustainable Watersheds (CSW)**, is a national non-governmental, non-profit charitable organization, dedicated to facilitating community involvement in water resource protection in Canada.

Health Canada is involved in many activities related to water quality, including: developing national drinking water guidelines with provincial and territorial drinking water authorities and guidelines for water used for recreational activities, such as lakes where people swim.

The **International Boundary Waters Treaty Act**, administered by the Department of Foreign Affairs and International Trade, authorizes the Canada–U.S. Boundary Waters Treaty, 1909. The Treaty contains a general covenant that boundary and transboundary waters shall not be polluted on either side to the injury of health or property on the other side. The **Great Lakes Water Quality Agreement** is an example of cooperation under this treaty.

Trout Unlimited Canada's **Yellow Fish Road** program is a nation-wide environmental education initiative. Yellow Fish Road volunteers paint "yellow fish" symbols next to storm drains and distribute fish-shaped brochures to nearby households, to remind people that anything that enters the storm drain system ends up in the local waterbody. The Program is active in Windsor.

The purpose of the **Detroit River Canadian Cleanup (DRCC)** is "to clean up, enhance, and sustain the ecosystem of the Detroit River and its watershed." As such, the key goal of the effort is to have the Detroit River permanently delisted from the international list of Areas of Concern under the Great Lakes Water Quality Agreement.

PROVINCIAL INITIATIVES

The **Safe Drinking Water Act** was developed in reaction to the Report of the Walkerton Inquiry. The purpose of the Safe Drinking Water Act is "to gather in one place all legislation and regulations relating to the treatment and distribution of drinking water." Importantly, the act works to protect human health through the control and regulation of drinking-water systems and drinking-water testing, so as to avoid the deaths from drinking water, as in Walkerton in 2002.



The "**Spills Bill**", 2005, S.O. 2005, c. 12 – Environmental Enforcement Statute Law Amendment Act – was passed by the Ontario Legislature on June 9, 2005. It is meant to encourage companies to take action to prevent spills and allows the Ministry of the Environment to impose environmental penalties on companies responsible for spills. The legislation creates a special community fund to be used for environmental clean ups following a spill.

The proposed **Clean Water Act** is a provincial initiative to ensure the delivery of safe drinking water by: requiring municipalities and conservation authorities to map the sources of municipal drinking water supply, and especially the vulnerable areas that need protection, to prevent the supply from being depleted or contaminated. The Act would also direct local communities to monitor and take action on any activity that could potentially threaten water quality or quantity.

The Ontario government is also responsible for watershed-based source protection, including:

- Sourcewater protection
- Watershed-based planning
- Issuance of Permits to Take Water
- Nutrient management
- Groundwater studies
- Water wells

LOCAL INITIATIVES

A major responsibility of the Pollution Control Laboratory is enforcing the **Sewer Use By-Law**. This by-law regulates discharges to sanitary and storm sewers. It also mandates the report of spills to City sewers and the completion of a Waste Survey Report by industry.

The three-phased **Riverfront Pollution Control Planning Study** investigated direct municipal discharges to the Detroit River along the riverfront area in the City of Windsor north of Riverside Drive, and to develop a pollution control strategy for the Windsor Riverfront District.

The City's 2003 review **Solid Waste Management Master Plan** focused on providing recommendations regarding the future management of waste diversion, summarizing public acceptance and the economic implications of implementing programs to achieve Best Practices Recycling Recovery Rates, as well as on assessing current organic waste composting operations and the feasibility of expanding these operations to include household organic waste. The **Essex-Windsor Solid Waste Authority (EWSWA)** responsible for managing this plan – will conduct the next review of the Master Plan in 2008.

As mentioned above, the City is spending \$110 million on the water treatment plant upgrade to secondary treatment using cutting-edge technology such as Biological Activated Filter (BAF) process and Ultraviolet Disinfection as part of the **Lou Romano Water Reclamation Plant Upgrade & Expansion Project**.

The City operates a **wastewater collection system** comprised of “separate” and “combined” sewers. Combined sewers have a tendency towards overflow, meaning that in periods of significant rainfall, the capacity of the combined sewer may be exceeded. When this occurs, regulators are designed to let the excess flow, which is a mixture of storm water and sanitary wastes (CSO), to be discharged directly to the Detroit River. Release of this excess flow is necessary to prevent flooding in homes, basements, businesses, and streets.



Windsor's **Sewer Use By-law** gives the City the right to prohibit, regulate and inspect the discharge of sewage into the municipal sewerage system.

The **Essex Region Conservation Authority (ERCA)** manages the natural resources of the Essex Region in partnership with the City of Windsor, County of Essex, the Township of Pelee Island, and the Province of Ontario. By the year 2020, ERCA is committed to achieve a sustainable, balanced environment with healthy watersheds, highlighted by clean creeks and rivers, thriving natural areas and productive agricultural lands. ERCA's approach to managing natural resources is on a watershed basis.

2.4 ENERGY

In terms of energy use, environmental benefits can be realized in two main ways: reducing energy usage and sourcing ways to switch to alternative fuel sources with fewer emissions. During the public consultation for the Environmental Master Plan, participants mentioned efficient energy use, light pollution, waste reduction and the wise use of resources. The rising cost of fuel and electricity across North America are of concern to consumers. Some ongoing national, provincial and local programs are briefly outlined below:

FEDERAL AND NATION-WIDE INITIATIVES

In an effort to reduce greenhouse gas (GHG) emissions, the federal government is providing financial support for the installation of 1,000 megawatts of new wind powered capacity over the next five years under the **Wind Power Production Incentive (WPPI)**. In addition, Natural Resources Canada supports the **Renewable Energy Deployment Initiative (REDI)**. The program was designed to stimulate the demand for renewable energy systems for water heating, space heating and industrial process heating in industry and residential homes. Example of these systems include: active solar water heating systems; active solar air heating systems; or high efficiency/low emissions biomass combustion systems.



The federal government also has a host of energy efficiency programs that could be translated to work at the municipal level such as the **Improving Energy Efficiency in Federal Buildings** and tips on how to develop an **Energy Management Plan** (as suggested in Objective Dc).

Developed in partnership with Canada's residential construction industry, **R-2000** is a standardization initiative of Natural Resource Canada's Office of Energy Efficiency. Its aim is to promote the use of cost-effective energy-efficient building practices and technologies by homeowners across Canada.

In addition, the **LEED (Leadership in Energy and Environmental Design) Green Building Rating System** is a voluntary American national standard for developing high-performance, sustainable buildings. LEED standards can be applied to neighbourhoods, commercial construction and homes. LEED emphasizes strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Canada Mortgage and Housing Corporation (CMHC), Canada's national housing agency, offers a 10 percent refund on its mortgage loan insurance premium when a borrower buys or builds an energy-efficient home or makes energy-saving renovations to an existing home.

PROVINCIAL INITIATIVES

EnergyStar for new homes is a pilot project in Ontario, managed for Natural Resources Canada by EnerQuality Corporation. New homes that receive the EnergyStar label are 40 percent more energy efficient than those built to minimum Ontario building code standards. Typical energy-efficiency measures for these homes include insulation upgrades, higher-performance windows, sealed air ducts, better draft-proofing and more efficient heating and air conditioning systems; this results in lower energy costs for home owners and a reduction in GHG emissions to the environment.



Provincial energy conservation programs have been launched and include the **"PowerWise"** and **"Make Every Kilowatt Count Campaign."** The latter campaign was designed to help Ontarians save energy and money by providing brochures, energy saving tips and coupons to households across the province. The provincial government is also promoting alternative and renewable sources of energy in an attempt to change Ontario's electricity generation mix and move away from a reliance on coal-fired plants. Alternatives include wind, solar, landfill gas and nuclear energy.

LOCAL INITIATIVES



The **Essex-Windsor Solid Waste Authority (EWSWA)** provides waste disposal, transfer and waste reduction programs and facilities for its eight member municipalities. These include Essex-Windsor Regional Landfill, two Transfer Stations and affiliated Public Drop Off Depots, Recycling Collection, the Essex-Windsor Recycling Centre, three composting sites and two Household Hazardous Collection Centres.

In an effort to reduce costs and energy use by the municipality, a proposal for a **Corporate Energy Management Plan** has been developed. This is further detailed in Objective Dc.

As described in the sections above, the City and its partners have a number of environmentally-related programs, policies and initiatives underway. The purpose of the Environmental Master Plan is to bring the environmentally-related portions of these initiatives together in a cohesive and strategic manner in order not to duplicate work and to create efficiencies. The project team reviewed dozens of documents, websites and programs to garner an understanding of the current environmental context within the City of Windsor; some of these are briefly described in Appendix C.

2.5 SELECT TRENDS

The City of Windsor does not exist within a “planning bubble;” trends and patterns of behaviour elsewhere in Ontario, across Canada, in the United States and around the world have impacts on the City’s environment. This section reviews some of the broad trends that are, or may affect Windsor. They are provided here as a “think piece” to use in considering the impacts, if any, on Windsor’s Environmental Master Plan’s implementation.

CHANGING PATTERNS OF DEVELOPMENT IN ADJACENT MUNICIPALITIES

The changing patterns of development in surrounding communities may have an impact on the level of service provision within Windsor. Parcels of land that were historically used as productive farmland in the Towns of LaSalle and Tecumseh have been converted into residential tracts. Because the City remains the dominant employment and activity centre in the region, this ongoing trend puts pressure on the City in many ways: traffic flows, managing shifting populations within the City, and potential loss of revenue. Objective Be explores the potential for a regional approach to growth management and the potential for a greenbelt around the City. This follows on the heels of a recently established greenbelt around the Greater Toronto Area (GTA): a swath of environmentally sensitive and agricultural land around the GTA (1.8 million acres) has been protected from “major urban development.”

CHANGING DEMOGRAPHICS WITHIN THE CITY

Trends show that the longevity and health of people, particularly those living in Northern Europe, Australia and North America, is increasing. This may have effects on individual and family structure relationships, as well as business development and broad policy areas of quality of life and environmental conditions. Population projections for Windsor show that by 2016 the largest population band will be those between 40 to 59 years of age. In 2001, the largest segment of Windsor was between 25 to 44 years. The overall population in the City is expected to grow from 208,425 (Statistics Canada, 2001) to between 209,674 and 220,972 (Official Plan) by 2016. An expanding population may have impacts on service provision and infrastructure maintenance.

TECHNOLOGICAL CHANGES

Our society and culture are evolving and changing rapidly. The changes of the past century have been substantial. The changes of the next decade or two will be even more significant and far-reaching. There are some significant major technological changes in the offering, which will lead to broad changes in lifestyle and day-to-day activities. Technological expansion is happening at a previously unforeseen rapid rate. Central to the technological changes are the expansion of microchip and nano-chip technology. Some technological improvements may be used to abate industrial, air and/or water pollution. Others, such as internet and telephone communications technologies, can help mitigate the need for travel, through use of internet shopping, telecommuting, ATM banking and so on. Growth in high-technology industries also can change the way products are shipped, as well as the modes that are used: for example, it is becoming more cost-effective to ship low-weight, high-value ‘hi-tech’ products by air, rather than by truck.

POLLUTION THAT SPANS GEOGRAPHIC AND ADMINISTRATIVE BOUNDARIES

As survey respondents were aware, air pollution is a global issue - much of Windsor's air pollution is caused locally, but other sources including emissions from the Ohio Valley and Michigan contribute to ground level ozone and airborne particles. Chemicals in Windsor's waterways are also from local and far-flung sources. Residents and staff members noted the importance of working with other orders of Canadian government and American partners to discuss and plan for reductions in the level of emissions across all jurisdictions. This collaborative approach is reflected in the action plans.

POLITICAL CHANGES

The recently introduced the City of Toronto Act is a dramatic shift in the provincial-municipal relationship. The Act allows the City of Toronto to enact tolls, tax certain goods and revisit the balance of power within Council. It is likely that other municipalities across Canada, including Windsor, will carefully watch the development of the Act. Another potential influence on the City's Environmental Master Plan will be the availability of funding from federal and provincial agencies. The amount of dedicated funding can make a large impact on the types and scope of programs suggested in the EMP. For instance, Environment Canada sponsored free transit days on Smog Advisories during 2003. However, the funding is no longer available. The stability of funding will be a key consideration during budget planning for the EMP.

SECTION 3: LOOKING TO WINDSOR'S ENVIRONMENTAL FUTURE: A CORPORATE ENVIRONMENTAL COMMITMENT

3.1 COMPONENTS OF THE ENVIRONMENTAL MASTER PLAN

The Environmental Master Plan contains a strategic direction, a set of guiding principles, a number of goals and a series of objectives. Each objective is associated with a detailed action plan (Figure 1).

Figure 1. Illustration of the components of the Environmental Master Plan



Each of the components is described below:

The **strategic direction** outlines what we want Windsor's environment to be. It is an inspirational, future-focused, timeless statement.

Goals are general statements of desired ends to be achieved over an unspecified period of time. Goals are a more specific articulation of the strategic direction and chart the direction for the EMP; they are not expected to be measurable.

Objectives are statements describing the results to be achieved. They are a means to help accomplish the goal.

An **action plan** is associated with each of the objectives: action plans include various steps to achieve the objectives, including indicators, to assess the rate of success in meeting the objectives and goals. Action plans answer the "When?" and "Who?" questions associated with the EMP.

3.2 STRATEGIC DIRECTION

The strategic direction for the Environmental Master Plan provides a direct environmental link to the City of Windsor's Community Strategic Plan

- The City of Windsor is committed to being a leader through its daily actions and services to enhance the environment for present and future generations.

3.3 GUIDING PRINCIPLES

While implementing the Environmental Master Plan, the City of Windsor will:

Form Partnerships: We will pursue partnerships between the City and the community, other governments, private and voluntary sectors to work towards solutions to environmental challenges and opportunities

Engage Residents: We will build awareness, actively involve stakeholders, and seek feedback on the Plan's progress

Focus on Innovation and Balance: We will review and consider best practices while balancing economic, social and ecological considerations

Work Together: Internally, the Corporation and its agencies will collaborate and communicate about the Plan's implementation

Lead By Example: We will act as leaders by providing responsible and proactive service to our residents

Track Our Progress: We will monitor, evaluate, and report on the Plan's progress to Council and the community-at-large and implement follow-up actions

Achieve Realism: We will strive for a balance between ambitious and achievable planning

3.4 GOALS

The strategic direction, guiding principles and goals form the foundation for the Environmental Master Plan. The City is committed to a balanced and realistic approach to the implementation of the Plan that provides due consideration for all five goals.

Goal A: Improve Our Air and Water Quality

To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality

Goal B: Create Healthy Communities

To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems

Goal C: Green Windsor

To protect and enhance the City's Greenway Systems

Goal D: Use Resources Efficiently

To increase resource efficiency, conserve water and energy and reduce waste

Goal E: Promote Awareness

To foster an engaged community and staff that appreciates and protects its local environment through active communication

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3.5 ACTION PLANS

GOALS AND OBJECTIVES – A LIST OF ACTION PLANS

GOAL A: IMPROVE OUR AIR AND WATER QUALITY

TO BE PROACTIVE BY PARTNERING WITH COMMUNITY GROUPS, INDUSTRY AND OTHER LEVELS OF GOVERNMENTS TO IMPROVE WINDSOR’S AIR AND WATER QUALITY

OBJECTIVE AA: DEVELOP STRATEGIES TO REDUCE CROSS-BORDER AIR AND WATER POLLUTION	21
OBJECTIVE AB: REDUCE AIR EMISSIONS AND WATER POLLUTION DISCHARGES FROM CITY OPERATIONS.....	22
OBJECTIVE AC: EFFECTIVELY MANAGE STORMWATER RUN-OFF AND COMBINED SEWER OVERFLOWS (CSOS).....	23
OBJECTIVE AD: COLLABORATE WITH COMMUNITY GROUPS AND OTHER GOVERNMENTS TO ENHANCE WATERSHED MANAGEMENT	24
OBJECTIVE AE: TRANSPORTATION SYSTEM ENHANCEMENTS TO REDUCE AIR EMISSIONS.....	25

GOAL B: CREATE HEALTHY COMMUNITIES

TO ENHANCE THE ENVIRONMENT OF OUR NEIGHBOURHOODS BY FOSTERING HEALTHY LIFESTYLES AND INTEGRATING ENVIRONMENTALLY FRIENDLY TRANSPORTATION SYSTEMS

OBJECTIVE BA: SUPPORT THE CITY’S TRANSIT MASTER PLAN TO REDUCE THE DEPENDENCE ON AUTOMOBILES BY INCREASING TRANSIT USE AND SUSTAINABLE TRANSPORTATION.....	26
OBJECTIVE BB: DEVELOP, EXPAND AND MAINTAIN A CONTIGUOUS NETWORK OF SAFE BICYCLE AND WALKING FACILITIES	27
OBJECTIVE BC: INVESTIGATE ALTERNATIVES TO “GREEN” THE CITY’S FLEET	28
OBJECTIVE BD: INCORPORATE SUSTAINABLE DEVELOPMENT PRACTICES IN THE DESIGN OF NEIGHBOURHOODS, HOMES AND BUSINESSES.....	29
OBJECTIVE BE: DEVELOP COLLABORATIVE APPROACHES WITH OTHER GOVERNMENTS TO MANAGE REGIONAL GROWTH.....	31
OBJECTIVE BF: SUPPORT ENVIRONMENTAL HEALTH INITIATIVES	32

GOAL C: GREEN WINDSOR

TO PROTECT AND ENHANCE THE CITY’S GREENWAY SYSTEM

OBJECTIVE CA: EXPAND THE GREENWAY SYSTEM	33
OBJECTIVE CB: ENHANCE THE GREENWAY SYSTEM.....	34
OBJECTIVE CC: IMPROVE GREENWAY SYSTEM LINKAGES	35

GOAL D: USE RESOURCES EFFICIENTLY

TO INCREASE RESOURCE EFFICIENCY, CONSERVE WATER AND ENERGY AND REDUCE WASTE

OBJECTIVE DA: ADOPT AN ENVIRONMENTALLY FRIENDLY PURCHASING POLICY	36
OBJECTIVE DB: RECYCLE AND REDUCE WASTES FROM CITY OPERATIONS	37
OBJECTIVE DC: ESTABLISH A CORPORATE ENERGY MANAGEMENT PLAN.....	38
OBJECTIVE DD: PROMOTE “GREENING” OF NEW AND EXISTING CITY FACILITIES.....	39

GOAL E: PROMOTE AWARENESS

TO FOSTER AN ENGAGED COMMUNITY AND STAFF THAT APPRECIATES AND PROTECTS ITS LOCAL ENVIRONMENT THROUGH ACTIVE COMMUNICATION

OBJECTIVE EA: ASSESS, EVALUATE AND REPORT ON THE CITY’S ENVIRONMENTAL PERFORMANCE	40
OBJECTIVE EB: DEVELOP AN ENVIRONMENTAL EDUCATION STRATEGY	42
OBJECTIVE EC: CONTINUE TO SEEK RESIDENT AND STAKEHOLDER INPUT ON THE CITY’S ENVIRONMENTAL DECISIONS.....	43
OBJECTIVE ED: BUILD AWARENESS AND UNDERSTANDING OF THE CITY’S ENVIRONMENTAL INITIATIVES	44

ACTION PLAN LEGEND

Goal	Goals are general statements of desired ends to be achieved over an unspecified period of time. Goals are a more specific articulation of the strategic direction and will chart the direction for the EMP; they are not expected to be measurable.	
Objective	Objectives are more specific statements of the general goals. Each objective is associated with a detailed action plan.	
Action	Typically, actions are quantifiable and time-sensitive; they must be taken to achieve the objective.	
Step	The individual tasks that need to be taken to aptly achieve the action. There can be multiple steps for each action.	
Indicator	A measure used to assess the degree of success in meeting the proposed actions. It is a single measurable feature.	
Time Frame	<p>Indication of the time period in which the step will be initiated:</p> <ul style="list-style-type: none"> • “Quick hits”: within one year (QH) of the EMP’s initiation • Short-term: within one to two years (ST) • Medium-term: within two to five years (MT) • Long-term: beyond five years (LT) <p>If a step is to be carried on indefinitely, this is identified with a “C” for continuous.</p>	
Responsibility	<p>Identification of who would be involved in the implementation of each of the actions. An indication of “lead” or “assist” is provided:</p> <ul style="list-style-type: none"> • B&D: Building & Development Department • CEH: Centre for Environmental Health • Comm: Communication • Council • DRCC: Detroit River Canadian Cleanup • EC: Environmental Coordinator* • EIC: EMP Implementation Committee ** • ERCA: Essex Region Conservation Authority • ES: Environmental Services • EWSWA: Essex-Windsor Solid Waste Authority • GLIER: Great Lakes Institute for Environmental Research • Facil: Facilities Management • L&E: Licensing and Enforcement 	<ul style="list-style-type: none"> • MMAH: Ministry of Municipal Affairs and Housing • MOE: Ministry of the Environment • MPIR: Ministry of Public Infrastructure and Renewal • Plan: Planning Department • RASC: Royal Astronomical Society of Canada • Res.: Residents • SEMCOG: The Southeast Michigan Council of Governments • S/H: Stakeholders • TC: Transport Canada • Trans: Transportation Planning and/or Traffic Operations (part of Public Works) • TW: Transit Windsor • WBC: Windsor Bicycling Committee • WECEC: Windsor Essex County Environment Committee • WECHU: Windsor Essex County Health Unit

*For purposes of this report, we have assumed an Environmental Coordinator staff position to manage the implementation of the EMP. Refer to Section 4 for further details.

** We have also assumed that the Environmental Coordinator will work with an EMP Implementation Committee – form and function to be determined. Refer to Section 4 for further details.

Goal A: **Improve Our Air and Water Quality**
To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality



Objective Aa: Develop strategies to reduce cross-border air and water pollution

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Work with other levels of government and industry to develop strategies to reduce trans-border air pollution	<ul style="list-style-type: none"> Form a City team to develop a campaign in Windsor to advocate for Windsor's local air quality issues at the regional, provincial, and federal levels in the United States and Canada and with industry representatives Gather air quality baseline information for comparison purposes. Publish and track in the State of the Environment Report (Objective Ea). Identify "key players" at each level of government in south-western Ontario and southeast Michigan Secure funding sources Identify partnerships with other agencies, governments and businesses Liaise with the Ministry of the Environment to increase environmental testing and compliance within the City 	<ul style="list-style-type: none"> Number of times that: <ul style="list-style-type: none"> carbon monoxide (CO) fine particulate matter (PM_{2.5}) ozone (O₃) nitrogen dioxide (NO₂) sulphur dioxide (SO₂) concentrations exceed Ministry of the Environment (MOE) criteria at Windsor's monitoring station Number and length of smog advisories per year in Windsor 	C	EIC	WECEC MOE EC USEPA SEMCOG Other gov'ts
Work with other levels of government to develop strategies to reduce trans-border water pollution	<ul style="list-style-type: none"> Form a City team to develop a campaign in Windsor to advocate for Windsor's local water quality issues at the regional, provincial, and federal levels in the United States and Canada. Focus on a coordinated approach to Combined Sewer Overflow discharge systems in Canada and the USA Gather water quality baseline information for comparison purposes. Publish and track in the State of the Environment Report (Objective Ea). Identify "key players" at each level of government Secure funding sources Identify partnerships with other agencies, governments and businesses Liaise with the Ministry of the Environment to increase environmental testing and compliance within the City Support the binational Remedial Action Plan (RAP) to restore the Detroit River Develop Source Water Protection Plans. 	<ul style="list-style-type: none"> Phosphorous, chloride, nitrate and E. coli concentrations in the City's watersheds (as described in Objective Ad) 	C	EIC	WECEC DRCC ERCA MOE SEMCOG Other gov'ts
Support other City initiatives to create a solution for Windsor's border crossing in order to reduce local air pollution	<ul style="list-style-type: none"> Be supportive of the process to identify solutions to minimize the impacts of truck traffic through the City of Windsor Work with the Binational study team (DRIC) to reach as environmentally-friendly a solution as possible to Windsor's border crossing Continue to exert municipal pressure on the province and federal government to make a decision as quickly as possible given the legislative context Support The Green Corridor Project 	<ul style="list-style-type: none"> Presence of a border crossing Traffic queues 	C	Council	TC CN/CP Other gov'ts

Goal A: Improve Our Air and Water Quality
To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality



Objective Ab: Reduce air emissions and water pollution discharges from City operations

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Reduce air pollution caused by City activities	<ul style="list-style-type: none"> Implement the milestones associated with the Federation of Canadian Municipalities' Partners for Climate Protection (PCP) program PCP is based on the CCP Campaign of a five milestone framework used to guide municipalities to reduce greenhouse gas emissions. The five milestone process is a performance-based model. The five milestones are: <ul style="list-style-type: none"> Creating a greenhouse gas emissions inventory and forecast; Setting an emissions reductions target; Developing a local action plan; Implementing the local action plan or a set of activities; and Monitoring progress and reporting results. Implement the Corporate Energy Management Plan (as described in Objective Dc) As described in Objective Bc, "green" the City's fleet 	<ul style="list-style-type: none"> Number of PCP milestones reached Reduction in CO₂ and greenhouse gas emissions 	C	EC	ES EIC All staff
Reduce water pollution caused by City activities	<ul style="list-style-type: none"> As described in Objective Da, buy and use product alternatives with lower toxic levels (for example, natural fertilizers, such as compost or peat) As described in Objective Db, increase recycling in order to reduce waste going to landfills or waterways Conserve treated water by installing low-flush toilets and water-efficient retrofits, as described in Objectives Ad and Dc 	<ul style="list-style-type: none"> Phosphorous, chloride, nitrate and E. coli concentrations in the City's watersheds (as described in Objective Ad) 	MT	EC	ES EIC All staff

Goal A: Improve Our Air and Water Quality
To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality



Objective Ac: Effectively manage stormwater run-off and Combined Sewer Overflows (CSOs)

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Develop Combined Sewer Overflow implementation actions that have been recommended under the Windsor Pollution Prevention and Control Plan to reduce overflows in order to improve water quality	<ul style="list-style-type: none"> Develop an education program for residents on what causes CSOs and how they can be avoided Develop a program to administer the implementation actions recommended in the Windsor Pollution Prevention and Control Plan Develop a stormwater management plan that: <ul style="list-style-type: none"> Reflects MOE's guidelines (2003) Addresses stormwater retrofits in developed areas Uses modeling and best practices (e.g. HSPF, LIFE models) to map and apply best stormwater management practices (e.g., source control, end of pipe, pollution prevention), and determine where cash-in-lieu can best be applied. Consider construction options to absorb rain water at the source such as installing green roofs to absorb water (as described in Objectives Bd and Dd) and advocating for underground parking or permeable pavement when constructing parking lots Enhance and enforce Windsor's current Sewer Use By-Law 	<ul style="list-style-type: none"> Number of overflows into rivers and lakes from Windsor's Water Pollution Control Plants Quality of water Existence of a stormwater management plan 	ST, C	ES	EC Plan. PW GLSF
Improve stormwater quality	<ul style="list-style-type: none"> Continue to implement the City's soft separation program Continue to upgrade the City's remaining "over/under" systems Encourage downspout disconnection in older subdivisions Continue to implement the Riverfront Pollution Control Plan 	<ul style="list-style-type: none"> Stormwater quality 	C	ES	

Goal A: Improve Our Air and Water Quality
To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality



Objective Ad: Collaborate with community groups, industry and other governments to enhance watershed management

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To improve the health of the water in the City of Windsor's waterways	<ul style="list-style-type: none"> Design and implement a program to educate residents on the hazards of oil, litter and chemical disposal down drains and sewers. Promote awareness of: <ul style="list-style-type: none"> The City's Household Chemical Waste (HCW) Depot and Reuse Centre The importance of downspout disconnections Temporary programs such as the Mercury Take-Back Program and Corporate Fluorescent Light Take-Back Coordinate and report on community-based monitoring of local waterways – track water quality as part of the proposed State of the Environment Report (Objective Ea) using the Provincial Water Quality Objectives (PWQO) and Canadian Water Quality Guidelines (CWQG). Consider partnering with the following groups for source water protection and monitoring: <ul style="list-style-type: none"> Environment Canada/MOE Detroit River Canadian Cleanup (DRCC) Great Lakes Institute for Environmental Research (GLIER) Essex Region Conservation Authority (ERCA) Windsor Essex County Environment Committee (WECEC) Little River Enhancement Group (Lil' Reg) Friends of Turkey Creek Continue Windsor's involvement in the Yellow Fish Road program 	<ul style="list-style-type: none"> Phosphorous, chloride, nitrate and E. coli concentrations in the City's watersheds 	QH, C	ES	EC Res. WECEC ERCA DRCC
To reduce the per capita use of treated municipal water by 20% by 2011	<ul style="list-style-type: none"> Continue to implement a water efficiency program that: <ul style="list-style-type: none"> Reminds homeowners to water their lawns on alternate days, and not at all during droughts Promotes water-efficient gardening Provides free installation of low flow showerheads and early-closing toilet flappers Maintain existing water distribution system to reduce water loss Implement a rain barrel water collection program on select City properties to show water conservation techniques Consider stocking and selling rain barrels at a discounted price – have them available at the Household Chemical Waste (HCW) Depot and Reuse Centre – to reduce the use of treated water for watering and lawn use.\ 	<ul style="list-style-type: none"> Per capita use of treated municipal water 	LT	ES	Comm. Res. WUC

Goal A: Improve Our Air and Water Quality
To be proactive by partnering with community groups, industry and other levels of governments to improve Windsor's air and water quality



Objective Ae: Transportation system enhancements to reduce air emissions

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To improve the City's traffic flow to reduce vehicular emissions	<ul style="list-style-type: none"> With the assistance and guidance from the All-Way Stop Committee, reduce unnecessary and unwarranted all-way stops; focus on transit and heavy trucking routes to reduce wait times. Promote transit priorities to reduce transit delay and promote schedule adherence and service reliability Reduce the number of at-grade crossings, work towards the rationalization of the rail system with railways and industry, and promote the re-use of abandoned rail routes as multi-modal urban transportation corridors, through the implementation of the Rail Rationalization Study. 	<ul style="list-style-type: none"> Number of all-way stops Number of level crossings Number of roundabouts 	C	Trans. All-Way Stop Comm.	TC B&D Plan. Council
To upgrade transportation signage and signals to reduce greenhouse gas emissions	<ul style="list-style-type: none"> Continue the conversion of all traffic signals and signage to Light Emitting Diodes (LEDs) to increase energy savings by 90% and labour costs associated with replacing conventional light bulbs. Promote increased and smoother traffic flow, for all modes (including cyclists and pedestrians) by using Intelligent Transportation Systems (ITS), e.g., to improve signal coordination, provide priorities for transit and introduce electronic way-finding and transit route information. Continue to upgrade existing and newly installed vehicle detectors (video technology and induction loops) to reduce vehicular idling 	<ul style="list-style-type: none"> Number of conversions from conventional lighting to LEDs kWhs/year used for transportation signage and signals Number of ITS applications installed Change in 'level of service' at intersections (measured from A to F) 	C	Trans.	

Goal B: Create Healthy Communities
To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems



Objective Ba: Support the City's Transit Master Plan to reduce the dependence on automobiles by increasing transit use and sustainable transportation

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Complement the City's Transit Master Plan (TMP) to increase transit ridership	<ul style="list-style-type: none"> The Transit Master Plan (TMP) is a policy document to govern the future development of public transit services. The TMP will include a Ridership Growth Strategy; it will detail how transit services will be improved and ridership targets met. Areas of study include: <ul style="list-style-type: none"> Transit oriented land use (TOD - Transit Oriented Development) Transportation Demand Management (TDM) Intelligent Transportation Systems (ITS) Recommendations will include service and technical strategies to reduce the community's auto dependence, which will in turn reduce petroleum fuel consumption and thus greenhouse gas emissions. The plan will address service planning policies, an operational plan, vehicle and infrastructure needs and requisite budget projections for the next 10 years (to 2016). Once it is finalized, identify ways the EMP can support the TMP 	<ul style="list-style-type: none"> Transit Windsor ridership (number of riders/route) 	ST, C	TW	EC Res.
Reduce the number of single-occupancy vehicle trips of staff and residents	<ul style="list-style-type: none"> The Windsor Area Long Range Transportation Study (WALTS) has goal to achieve 6% modal split for public transit by 2016 Create education campaigns to: <ul style="list-style-type: none"> Encourage staff and residents to get out of their cars for at least one day a week Promote "flexible hours" to allow for carpooling to work Promote benefits of a car-free life-style: better health, lower cost City of Windsor to participate in International Car Free Day (September 22) Recruit and identify sponsor funding to reinstitute free bus rides on smog days Investigate partnerships with industry and surrounding municipalities for City car pool vans and parking (www.carpool.ca) Continue to provide incentives to City staff to leave their cars at home such as discounted bus passes and end-of-use facilities Support alternative work styles such as telecommuting, or working from home one day per week to reduce greenhouse gas emissions, by working with major and mid-sized employers to develop in-house ridesharing and telecommuting programmes. 	<ul style="list-style-type: none"> Number of single-occupancy vehicle trips per household per day Average vehicle occupancy 	ST, C	Trans. TW	Parks HR Comm. WECEC All staff Council Res.

Goal B: Create Healthy Communities
To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems



Objective Bb: Develop, expand and maintain a contiguous network of safe bicycle and walking facilities

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Develop, expand and maintain a network of safe bicycling facilities according to the Bicycle Use Master Plan (BUMP)	<ul style="list-style-type: none"> Amend the Bicycle Use Master Plan (BUMP) to the Official Plan and provide long-term committed funding to support the strategy of: <ul style="list-style-type: none"> Expanding Windsor's existing cycling network (as per the map on page 27 of BUMP); Promoting awareness; Providing safety awareness training to drivers and cyclists alike; Improving the cycling-transit link; and Providing end-of-trip facilities such as showers and bike racks, according to priority list. Allow individuals or businesses to adopt-a-trail to maintain the quality of existing and new facilities As discussed in Objective Bf, promote bicycling as a healthy alternative for residents and staff 	<ul style="list-style-type: none"> Number of kilometres of bicycle trails, lanes and routes 	MT	Trans.	EC Plan. WECH U WBC
Develop, expand and maintain a network of safe walking facilities	<ul style="list-style-type: none"> Identify priority areas for connectivity among the City's walking facilities. Seek increased funding for infrastructure improvements and upgrades. Consider a "sinking fund" for route maintenance. Develop a work plan to expand the network in priority areas Allow individuals or businesses to adopt-a-trail to maintain the quality of existing and new facilities As discussed in Objective Bf, promote walking as a healthy alternative for residents and staff 	<ul style="list-style-type: none"> Number of kilometres of walking trails and sidewalks 	MT	Parks PW	Plan.

Goal B: Create Healthy Communities
To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems



Objective Bc: Investigate alternatives to “green” the City’s fleet

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To reduce the air pollution created while operating the City’s fleet of vehicles	<ul style="list-style-type: none"> Develop and implement a Green Fleet Plan. The Plan will: <ul style="list-style-type: none"> Include an implementation schedule for replacing the City's fleet with vehicles and equipment that are less harmful to the environment. For example, the possibility of purchasing smaller buses for routes with low ridership. Suggest the use of proven technologies (vetted through, for example, Environmental Technology Verification (ETV Canada)) Consider current fleet emissions, options for replacement, environmental benefits and life-cycle costs. Promote compliance of the anti-idling by-law Engage other levels of governments for grants and funding. Continue to implement the Fleet Winter Maintenance Policy When reconsidering job descriptions for employees that <i>require</i> a car, investigate the possibility of allowing them to rent a car on occasion or take a taxi to visit clients instead of requiring them to drive to work everyday. When purchasing for fleet replacement, continue to include wording in the tenders with respect to “lower emitting vehicle” options and automatic shut-off for idling vehicles Coordinate with the outcome of this Objective with Objective Da (Environmentally Purchasing Policy) 	<ul style="list-style-type: none"> Air pollution created by the use by the City’s fleet of vehicles (CO2 and particulate matter) 	C	PW	Purch. TW (Ops and Board)

Goal B: Create Healthy Communities

To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems

**Objective Bd: Incorporate sustainable development practices in the design of neighbourhoods, homes and businesses**

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To encourage in-fill and higher density in existing built areas	<ul style="list-style-type: none"> In order to promote concentration, encourage adaptive reuse of buildings, especially heritage buildings, in core areas. These buildings already have infrastructure in place: streets, sewers, schools, transit. Identify opportunities for higher density development to support alternatives to driving (transit, cycling, walking, etc) and highlight in the upcoming Official Plan Review Examine current policies and by-laws; provide incentives for infill/higher density; set minimum density requirements When implementing the Annexed Area Master Plan, promote transportation demand management (TDM). Design commercial and residential land use to maximize access to public transit Continue the implementation of community improvement plans to encourage investment in older neighbourhoods Focus on beautification and renewal of existing built areas 	<ul style="list-style-type: none"> Density in the City of Windsor (units per hectare) 	C	Plan B&D	EIC RASC TW Trans.
To encourage the construction of energy efficient homes and businesses in Windsor (i.e., R-2000, C-2000, Energy Star, LEED)	<ul style="list-style-type: none"> City of Windsor to assess, as part of Objective Ea, the number of existing energy efficient homes and businesses in Windsor. Based on the assessment, set a target percentage of new homes and businesses to be built to energy efficiency standards (i.e., C-2000, R-2000, Energy Star, LEED, etc.) Work to create a education campaign for residents (to create demand) and builders (to create supply) about the environmental and financial benefits of energy efficient homes and businesses Investigate the possibility of reducing development charges for developers of energy efficient homes and businesses. 	<ul style="list-style-type: none"> Number of energy efficient homes and businesses in Windsor 	C	B&D	Plan. S/H Housing Adv. Comm.

Goal B: Create Healthy Communities

To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems

**Objective Bd: Incorporate sustainable development practices in the design of neighbourhoods, homes and businesses**

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To increase the number of sustainable design features in the development of neighbourhoods, homes and businesses	<ul style="list-style-type: none"> Planning Department to develop a sustainability measure for Windsor and analyze potential developments for sustainability. Advertise the sustainability measure to homeowners and developers, as legislation and building codes allow. The guide may include the consideration of: <ul style="list-style-type: none"> Green roofs Housing orientation Adequate insulation Underground parking Windows in office buildings which can be opened Improved temperature control systems Alternative energy sources Access to public transit Amount of light pollution from street lights and use full cut off street lights Work with developers to encourage best practices and the integration of the ideas listed above. Create incentives for sustainable design by builders and demand for sustainable homes (and businesses) by residents (and business owners) through the development of an education campaign about the advantages of scoring high on the sustainability measure (i.e., energy and cost savings) As part of the Official Plan review, work with small businesses to improve streetscapes and interactivity (encouraging local community development) Identify and take advantage of provincial and federal programs for funding and best practices Continue to implement the activities in "Windsor Seen", a municipal urban design agenda for the City. Continue to apply the Urban Design Guidelines for municipal buildings and private development 	<ul style="list-style-type: none"> Number of developments using sustainable practices Number of building permits issued to sustainable buildings, as defined by the sustainability measure 	MT	Plan. B&D	Cont. S/H PW RASC

Goal B: **Create Healthy Communities**
 To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems



Objective Be: Develop collaborative approaches with other governments to manage regional growth

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To develop and implement a Regional Growth Plan by 2011	<ul style="list-style-type: none"> Based on the provincial context for well managed growth with regard to surrounding regions, continue to investigate "Regional Approach to Managing Growth" in Windsor/ Essex County The benefits of such a growth management plan can include: <ul style="list-style-type: none"> Service and transportation efficiencies Coordinated approach to green space linkages Long term consideration of land use patterns Attenuating the adverse consequences of rapid growth on areas in the region that are rapidly expanding Managing population growth A model/process is currently being developed in the form of a Discussion Paper Continue discussions and plans and develop a Regional Growth Plan that targets regional trends, greenspace allocations, transportation planning and growth management 	<ul style="list-style-type: none"> Presence of a Regional Growth Plan Area of land covered by the Regional Growth Plan (km²) 	MT	Planning	ERCA MMAH WECEC MPIR Trans. TW All seven county municipalities

Goal B: **Create Healthy Communities**
To enhance the environment of our neighbourhoods by fostering healthy lifestyles and integrating environmentally friendly transportation systems



Objective Bf: Support environmental health initiatives

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Develop a campaign to get Windsorites active and enjoying their environment	<ul style="list-style-type: none"> Develop and promote a campaign to get staff and residents active and outdoors. This may include: <ul style="list-style-type: none"> Encouraging students to discover healthy ways of getting to school, such as walking and biking, instead of being driven to school every day. Promoting walking and biking along trails as leisure activities for families and seniors Include, in the Environmental Attitudes Survey (Objective Ea) a question related to outdoor activity levels. 	<ul style="list-style-type: none"> Percentage of residents and staff who are regularly active outdoors 	ST, C	Comm Parks EC	GLIER CEH ERCA S/H Res. Trans.
Increase use of environmentally-friendly products in City facilities	<ul style="list-style-type: none"> Identify which “toxic products” the City is currently using and develop an implementation plan to gradually phase-out the purchase and use of toxic substances in favour of “environmentally-friendly products.” A list of cleaning products used by the City has already been developed. Define “environmentally friendly products” in a Windsor context. Seek alternatives to traditional pesticides, cleaning supplies, corrosives, paints and thinners, stains and finishes, bleach, used motor oil, etc. Create linkages to the purchasing policy (Objective Da). 	<ul style="list-style-type: none"> Volume of environmentally-friendly products (as defined in the purchasing policy) purchased by the City of Windsor 	ST	Purch	GLIER CEH Facil. EC
Support ongoing environmental health initiatives	<ul style="list-style-type: none"> Support and promote ongoing environmental health initiatives within the City such as the Standing Water By-law Work with the Centre for Environmental Health to strengthen linkages between ongoing research and integration into the City's initiatives. 	<ul style="list-style-type: none"> Number of environmental health initiatives that the City supports 	MT	ES	GLIER CEH

Goal C: Green Windsor

To protect and enhance the City's Greenway System

(Greenway System: a network of natural environment and recreational elements including community and regional parks, recreation ways, natural heritage sites, waterfront recreation areas, street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits)



Objective Ca: Expanding the Greenway System

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Rehabilitate and naturalize derelict and underutilized lands to expand the Greenway System	<ul style="list-style-type: none"> Support existing Greenway Policies in the Official Plan Support the existing Brownfields Redevelopment Strategy and implement its work plan Develop infill targets to protect the Greenway System Naturalize sites to the extent possible Monitor changes in the amount and proportion of Greenway System components acquired 	<ul style="list-style-type: none"> Amount of land acquired & rehabilitated 	LT	Plan	EC B&D Parks ERCA
Acquire additional lands for integration into the Greenway System	<ul style="list-style-type: none"> Support existing Greenway Policies in the Official Plan Confirm the current extent and proportion of the various Greenway System components (i.e. natural heritage, waterway corridors, linkages) – may require inventory and analysis Set acquisition targets for the Greenway System Develop land acquisition strategies with regional partners to define how and when the City can achieve the targets Source funding opportunities to secure lands Monitor changes in the amount and proportion of Greenway System components acquired. 	<ul style="list-style-type: none"> Amount of land acquired (hectares) 	LT	Plan	B&D Council ERCA WECEC S/H

Goal C: Green Windsor

To protect and enhance the City's Greenway System

(Greenway System: a network of natural environment and recreational elements including community and regional parks, recreation ways, natural heritage sites, waterfront recreation areas, street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits)



Objective Cb: Enhancing the Greenway System

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
Enhance the quality and condition of the Greenway System	<ul style="list-style-type: none"> Assess the quality and condition of the Greenway System components (This may require additional inventory and evaluation). Take into special account the unique and rare ecosystems in Windsor: the Ojibway Prairie Complex; the Spring Garden ANSI; Peche Island and the Memorial Park rare Carolinian Oak Grove Prepare Management Plans for Greenway System components and individual sites: <ul style="list-style-type: none"> Identify issues that are currently impairing the quality of the Greenway System (i.e. habitat fragmentation/degradation, invasive species, incompatible human uses, littering, vandalism, erosion, etc.) Identify strategies & actions to address the various issues and enhance the Greenway System Implement Management Strategies & actions (i.e., actively managing tall grass prairie by planned burns) Monitor the quality and condition of the Greenway System components (i.e. integrity, biodiversity, health, etc.) 	<ul style="list-style-type: none"> Completion of an inventory & evaluation Completion of Management Plans Results of monitoring 	MT	EC	B&D Plan. ERCA WECEC
Increase tree cover in the City by 5% by 2011	<ul style="list-style-type: none"> Assess the current proportion of tree cover on private and public land in the City through analysis of aerial photos Continue to implement and support Urban Forestry practices, street tree planting and "One Million Trees" program Create incentives for the planting of native, Carolinian species and the preservation of existing trees; for example: <ul style="list-style-type: none"> Provide a tax credit for new trees planted on private property Begin a City nursery to grow seedlings/saplings of Carolinian forest species; give away saplings at a nominal cost Encourage species diversification Launch a "tree drive" by encouraging companies to donate trees Communicate with developers who approach the City in order to preserve trees Promote the planting of "blossom trees" and consider sponsoring a "Blossom Festival" 	<ul style="list-style-type: none"> Amount of tree cover (hectares) 	QH-LT	Parks	B&D Plan. S/H Res. ERCA

Goal C: Green Windsor

To protect and enhance the City's Greenway System

(Greenway System: a network of natural environment and recreational elements including community and regional parks, recreation ways, natural heritage sites, waterfront recreation areas, street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits)



Objective Cc: Linking the Greenway System

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To increase connectivity within the Greenway System by 15% by the year 2011	<ul style="list-style-type: none"> As part of the State of the Environment report (Objective Ea), conduct an assessment of the current state of Windsor's Greenway System Linkages by performing a Landscape Analysis. Include the number of hectares of green space that is "linked" to each other as a baseline. Identify linkage improvement opportunities in the Greenway System and reflect these in Official Plan updates. Develop strategies for acquiring these strategic lands through the following mechanisms: <ul style="list-style-type: none"> Development Applications Purchase Park Dedication Land Swap Conservation Easements Land Trust Voluntary property tax fund Land contribution by public agencies As part of the five year review of the State of the Environment Report (Objective Ea), review state of linkages and adjust acquisition strategies, if necessary Work with surrounding municipalities to plan for and strengthen linkages across municipal boundaries. 	<ul style="list-style-type: none"> Connectedness of Greenway System Number and extent of strengthened linkages Number and extent of new linkages 	LT	Parks	B&D Plan ERCA

Goal D: Use Resources Efficiently
To increase resource efficiency, conserve water and energy and reduce waste



Objective Da: Adopt an environmentally friendly purchasing policy

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To develop and adopt an environmentally-friendly purchasing policy by 2010	<ul style="list-style-type: none"> Identify current purchasing policy. During review of the purchasing policy (planned for 2007-2008), develop a written environmentally friendly purchasing policy Develop a list of "green" attributes of suppliers, contractors and products for inclusion in the policy. Suppliers with the "green attributes" will be given first priority in purchasing decisions where costs are within 10% of competitors. Develop a business case showing the life-cycle and cost-benefit analysis of environmentally-friendly purchasing Inform suppliers and contractors about the change in the City's policy Create staff awareness about the change in policy and the benefits of the new policy If the City would like to measure the changes that result due to the change in the purchasing policy, consider the inclusion of a self-audit as part of the State of the Environment Report (Objective Ea) 	<ul style="list-style-type: none"> Presence of policy Change in City's purchasing habits 	MT	Purch	PW Council RASC Suppliers

Goal D: Use Resources Efficiently
To increase resource efficiency, conserve water and energy and reduce waste



Objective Db: Recycle and reduce wastes from City operations

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To reduce paper usage within City operations	<ul style="list-style-type: none"> Investigate current paper use patterns and set a percentage of paper reduction Develop and implement a paper reduction plan by: <ul style="list-style-type: none"> Gathering information from all City facilities about how much paper is purchased on an annual basis Soliciting creative ideas for paper reduction from staff Ensure all work spaces have paper recycling bins within reach Determining focus areas for paper reduction strategy, for example: <ul style="list-style-type: none"> Move to two-sided copying Take advantage of electronic document management: make access to electronic information easy and safe so people don't have to print documents; provide training Compare the amount of paper purchased by the City on an annual basis If paper usage has not declined, investigate reasons why, and adjust the plan and focus areas 	<ul style="list-style-type: none"> Amount of paper purchased on an annual basis (# of reams) 	LT	EWSWA ES	Comm
Increase the amount of recyclable material collected on-site at all City facilities by 25% by 2011	<ul style="list-style-type: none"> Measure the amount of recycled material collected from City facilities vs. the amount of waste collected In an effort to increase this, choose appropriate recycling containers and consider individual containers, where possible. Encourage the use of recycling bins (paper, glass and plastics) in all City buildings and in the community: parks, transit stops, and pedestrian areas. Locate recycling bins in convenient locations and label them clearly. Provide training for facilities staff with respect to any changes in recycling procedures Focus reminders and incentive programs on any problem areas (as part of Objective Eb) Encourage contractors and suppliers to make recycled-content products available Use savings from waste prevention efforts to offset the costs of buying recycled products in those instances where they cost more. Ensure that all building permits include appropriate provisions for source separation recycling as mandated under Ontario Regulation 103/94 to the Environmental Protection Act 	<ul style="list-style-type: none"> Amount of recycled material collected from City facilities (kg) Amount of solid waste collected from municipal facilities (kg) Number of recycling bins provided at public facilities 	LT	EWSWA	Comm B&D

Goal D: Use Resources Efficiently
To increase resource efficiency, conserve water and energy and reduce waste



Objective Dc: Establish a Corporate Energy Management Plan

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To reduce the amount of energy the City of Windsor uses for its operations by 15% by 2011	<ul style="list-style-type: none"> Develop a Corporate Energy Management Plan, by: <ul style="list-style-type: none"> Assigning a project leader Reviewing current energy management plan and practices Identifying baseline energy usage for electricity, water and natural gas. Evaluate costs and benefits over the long-term Use the results of the plan to implement retrofits and energy saving mechanisms with a payback time Energy conservation measures may include: <ul style="list-style-type: none"> Adopting a dynamic lighting plan that would allow for lighting curfews, examination of LED use and a night light protocol such as participation in the Fatal Light Awareness Program (FLAP). Alternative lighting Building retrofits, green roofs, etc. Heating and cooling changes Installing sensors Developing an energy component in the education strategy (Objective Eb) Assess current water usage across all municipal buildings. Windsor Utilities Commission (WUC) is moving towards a full cost recovery model which will measure and charge for water used for summer services. This will result in conservation and will reduce water usage by at least 10%. 	<ul style="list-style-type: none"> Amount of energy the City uses for its operations on an annual basis (kWh) (as a function of climatic conditions) Amount of natural gas the City uses for its operations on an annual basis (cf) (as a function of climatic conditions) Amount of water the City uses for its operations on an annual basis (L) (as a function of climatic conditions) 	ST	Corp. Facil. Plan.	All staff WUC RASC

Goal D: Use Resources Efficiently
To increase resource efficiency, conserve water and energy and reduce waste



Objective Dd: Promote “greening” of new and existing city facilities

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To investigate the possibility of developing a policy so that all newly constructed municipal buildings are LEED certified by 2016	<ul style="list-style-type: none"> Develop a draft policy stipulating that all newly constructed public buildings are to be LEED certified to at least a Gold rating Start pilot projects on smaller buildings such as fire halls or the proposed Transit Building. Develop education material about LEED for staff, contractors and Council (as part of Objective Eb) Encourage home owners and builders to consider LEED standards (Objective Bc) Coordinate linkages with Windsor Seen, Reference #15: Develop policies to promote “Green Architecture” Apply the City’s City Centre West Urban Village Performance-Based Urban Design Guidelines (Sections 3 and 5.3) to new municipal buildings. 	<ul style="list-style-type: none"> Presence of policy Percentage of new municipal buildings built that are LEED certified 	MT-LT	Plan.	B&D. Purch. PW Contr. Council
To promote adaptive reuse of buildings, especially heritage buildings	<ul style="list-style-type: none"> Develop a municipal “heritage first” policy to reuse existing buildings (and materials), in core areas. It is environmentally-friendly and cost-effective to reuse these buildings because they already have infrastructure in place (streets, sewers, schools, transit). In addition, recycling waste and building materials is possible. 	<ul style="list-style-type: none"> Number of heritage buildings reused Amount of building material reused 	LT	Plan.	B&D
To reduce energy consumption of City buildings by installing green roofs on at least five City facilities by 2011	<ul style="list-style-type: none"> Provide leadership in energy savings by installing green roofs. Green roofs involve planting vegetation on rooftops for insulation, noise reduction and aesthetic purposes (Environment Canada found that a typical one storey building with a grass roof and 10 cm of growing medium results in a 25% reduction in summer cooling needs. Source: www.greenroofs.net). Parks is currently leading this initiative with a potential installation at the waterfront 	<ul style="list-style-type: none"> Net energy use reduction as a result of green roof installation (kWh) 	LT	Facil.	B&D Plan. Council Parks

Goal E: Promote Awareness
To foster an engaged community and staff that appreciates and protects its local environment through active communication



Objective Ea: Assess, evaluate and report on the city's environmental performance

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To report, biannually, on the progress of the implementation of the Environmental Master Plan	<ul style="list-style-type: none"> Develop, every two years, a report on the progress of the implementation of the Environmental Master Plan, including recommendations for changes to: <ul style="list-style-type: none"> Objectives or action plans Funding Staffing Education strategies Composition of the EMP Implementation Committee Present the report to the City's EMP Implementation Committee Present the report to City Council 	<ul style="list-style-type: none"> Presentation of report to City Council Changes to the EMP, committee, funding or staffing 	QH, C	EC	EIC

Goal E: **Promote Awareness**
To foster an engaged community and staff that appreciates and protects its local environment through active communication



Objective Ea: Assess, evaluate and report on the city's environmental performance

Action	Steps	Indicators	Time Frame	Responsibility	
To establish a Windsor State of the Environment Report with regular updates	<ul style="list-style-type: none"> Decide on the environmental focus areas that Windsor would like to track over time. Include a representation of land, air, water and energy issues in the indicators. Key considerations in the development of indicators will be: cost, reliability, realism, and availability of information Develop a "baseline" for each of the indicators Publish and distribute Windsor's first State of the Environment Report Monitor and report on indicators over a four-year time period – work in partnership with community groups, other orders of government and residents to monitor changes. Repeat the publication and distribution of the State of the Environment Report on a five-year cycle Incorporate the results of the State of the Environment Report into the annual EMP review Investigate the development and implementation of "The Natural Step": "The Natural Step Framework is a science and systems-based approach to organizational planning for sustainability. It provides a practical set of design criteria that can be used to direct social, environmental, and economic actions." 	<ul style="list-style-type: none"> Existence of a State of the Environment Report Changes to the objectives of the EMP 	ST	EC	EIC Res. S/H ERCA
To conduct a regular survey of environmental attitudes with resident and staff	<ul style="list-style-type: none"> Develop a survey to determine environmental awareness, and participation in environmental activities, events and programs by staff and residents Review the 2005 Environmental Attitudes Survey questionnaire for relevance Adjust the questions according to the objectives of the final EMP Conduct an environmental attitudes survey once every four years; coordinate questions and timing with any other City surveys Compare the results of the surveys and integrate results into the annual report on the implementation of the EMP 	<ul style="list-style-type: none"> Percentage of residents and staff who have changed their attitudes over a three year period Changes to the objectives of the EMP 	MT, C	EC	EIC

Goal E: Promote Awareness

To foster an engaged community and staff that appreciates and protects its local environment through active communication

**Objective Eb: Develop an environmental education strategy**

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To develop an environmental education strategy that is tailored towards: <ul style="list-style-type: none"> • Staff • Council; and • Contractors 	<ul style="list-style-type: none"> • Identify focus areas for the environmental education strategy – likely focus on individual actions that staff, council and contractors can take to improve the City's environment • Develop an environmental education strategy with a focus on each of the target groups: staff, council and contractors <ul style="list-style-type: none"> ○ Focus on individual actions that can be taken to improve the environment ○ Develop training material for new staff to expose them to the EMP ○ Development of incentives to encourage participation in environmental activities and events ○ Creative methods for information dissemination about environmental activities (i.e., weekly email, information sheets, awards, prizes, quarterly information sessions) • Implement environmental education strategy 	<ul style="list-style-type: none"> • Presence of environmental education strategy • Percentage change in environmental attitudes, as measured by the City-wide survey in Objective Ea 	ST, C	EC	Comm. Staff Dev't HR Purch. RASC
To develop and maintain a web-based environmental information site	<ul style="list-style-type: none"> • Develop a webpage on the City's site (link from www.citywindsor.ca) that includes: <ul style="list-style-type: none"> ○ Windsor's current environmental initiatives, programs and policies ○ Contact information ○ References ○ Links to more information • Ensure adequate technical staff to keep the site up-to-date 	<ul style="list-style-type: none"> • Number of visits to website 	LT	ES	EC Comm.

Goal E: Promote Awareness
To foster an engaged community and staff that appreciates and protects its local environment through active communication



Objective Ec: Continue to seek resident and stakeholder input on the city's environmental decisions

Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To ensure involvement of residents and stakeholders in environmental decision-making	<ul style="list-style-type: none"> Continue to create forums for stakeholder and resident input and dialogue (i.e., open houses, workshops, etc.) Continue to advertise public sessions through local media and on the City's website For specific environmental issues, develop specifically targeted communication strategies As mentioned in Objective Ea, continue to conduct the Environmental Attitudes Survey on a regular basis. Include, in the survey, a question gauging the level of ownership residents feel towards environmental processes and outcomes Develop a working relationship with school board and business representatives to ensure that notification for all environmental issues is passed on to youth and business leaders. 	<ul style="list-style-type: none"> Outcome of consultation sessions – number of individuals that participate and/or provide feedback Results of the Environmental Attitudes Survey question about input 	C	ES	Comm. RASC S/H

Goal E:**Promote Awareness**

To foster an engaged community and staff that appreciates and protects its local environment through active communication

**Objective Ed: Build awareness and understanding of the city's environmental initiatives**

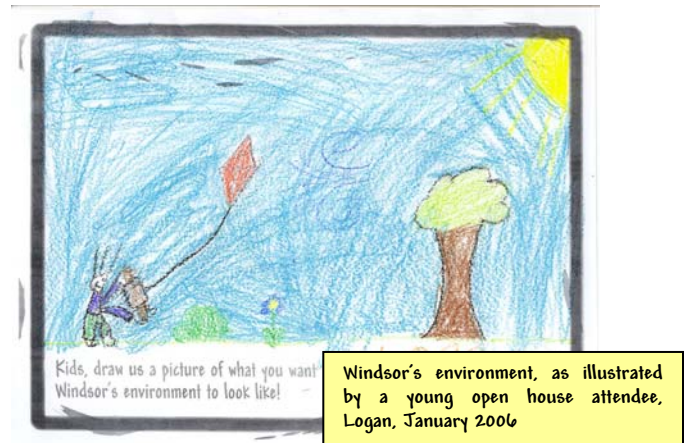
Action	Steps	Indicators	Time Frame	Responsibility	
				Lead	Assist
To increase awareness among residents and stakeholders of the City's environmental programs, policies and initiatives, such as: <ul style="list-style-type: none"> Hazardous waste drop off (batteries, used oil, hazardous materials, old medicines, etc) Clean City Committee Essex-Windsor HHW Depot Mercury Collection Program Anti-idling by-law Sewer use by-law Smog action plan 	<ul style="list-style-type: none"> Lead by example by showcasing ongoing environmental initiatives in local media Develop an education campaign that may include: <ul style="list-style-type: none"> A "Enviro-Topic of the Week" in the Windsor Star Newsletters Targeted flyers Repeat the Environmental Attitudes Survey on a regular cycle to gauge changes in attitudes and awareness (e.g., every four years) 	<ul style="list-style-type: none"> Percentage of residents who are aware of (or participate in) the City's environmental programs, policies and initiatives 	LT, C	Comm. EWSWA	L & E

SECTION 4: MAKING THE PLAN A REALITY: IMPLEMENTATION

The most important facet of the Environmental Master Plan will be how it is implemented across the City. The action plans for the Environmental Master Plan touch on issues that affect every department in City, therefore it needs to be integrated into the existing management framework.

This section outlines four key considerations for the Environmental Master Plan's implementation – linkages to ongoing initiatives, oversight, reporting and communication and funding. These will be considered as part of the development of a broader implementation plan for the EMP. Funding for this additional piece of work has been provided by the federal government through Environment Canada's Great Lakes Sustainability Fund (GLSF). The funding of \$30,000 will be used to prepare a separate, and more comprehensive, report on the implementation issues that need to be addressed for the EMP; these include:

- Staffing and oversight structure
- Committee structure
- Reporting procedures
- Monitoring procedures
- Priority setting techniques
- Budget and funding coordination
- Methods to refine and track indicators
- A set of departmental action plans



4.1 LINKAGES TO ONGOING INITIATIVES

The Environmental Master Plan is meant to be guiding document for the municipality on a range of environmental issues. The creation of an Environmental Master Plan was not intended to duplicate the work of other master plans (for example, the Transit Master Plan). It is a complementary plan that includes detailed action plans for activities not covered by other municipal policies and plans and that directs readers to other plans for details, where necessary.

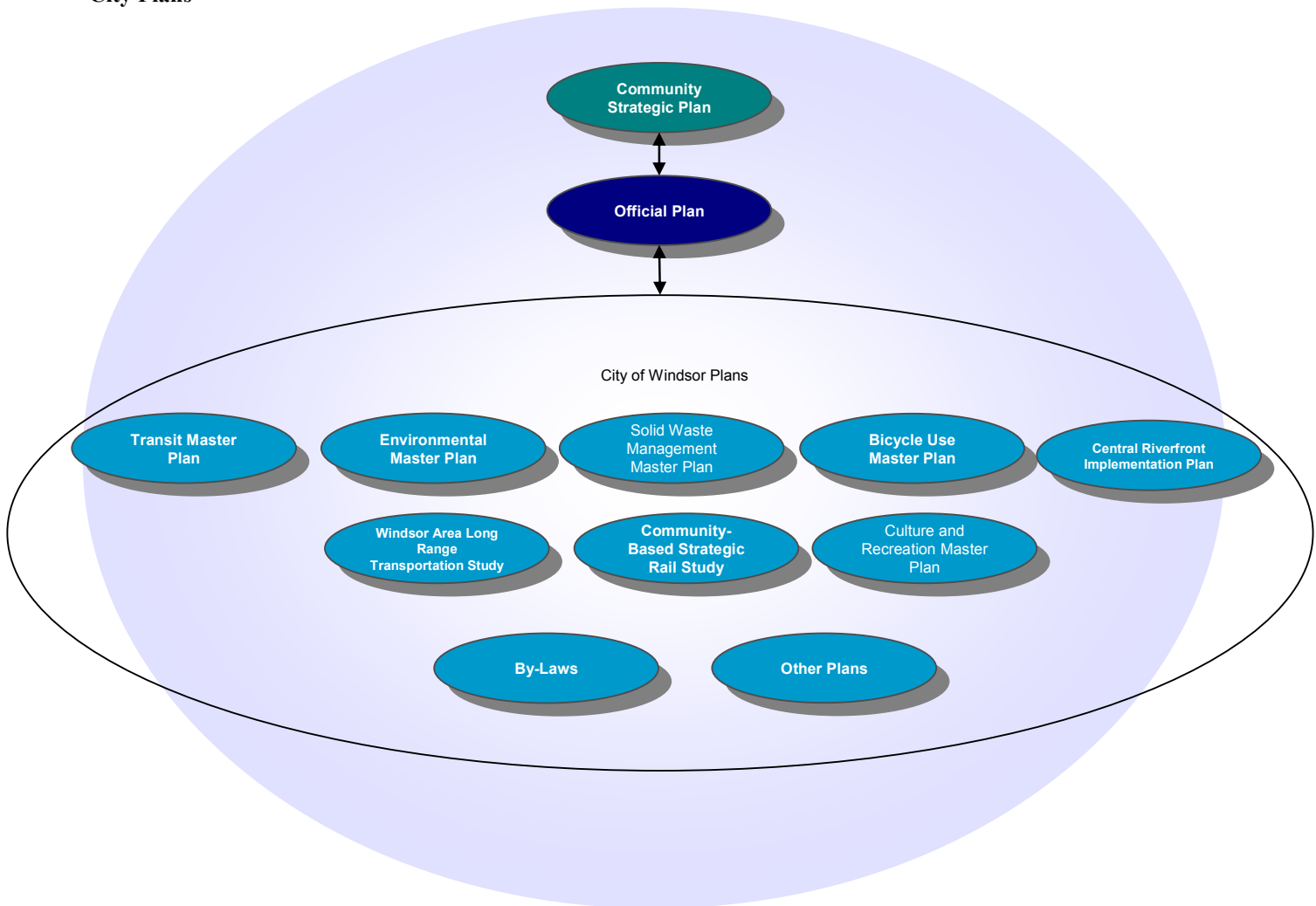
The EMP directly supports the fulfilment of the City's third Strategic Theme in its Community Strategic Plan (CSP): Sustainable Healthy Environment. The CSP was developed in 1996 and in 2003 a series of updated Action Plans were developed:

- 4.1 Establish an Environmental Focal Point
- 4.2 Review all Municipal By-Laws
- 4.3 Develop Policy and Plan for Greenspace
- 4.4 Establish Role in Environmental Advocacy
- 4.5 Ensure Signage for Transportation of Hazardous Material

The Official Plan for Windsor is the overall guidance document that provides a policy framework for a number of issues including environmental enhancement for the City. The Official Plan is the binding planning document of any Ontario municipality. Since the City's Official Plan is presently under review, some cross references should be incorporated to ensure compatibility of the documents.

As such, it is proposed that in the Environmental Master Plan be situated in the City's administrative structure as illustrated in Figure 2. Note that the diagram does not indicate any hierarchy among the "other City of Windsor plans" – they are meant to work in concert with one another to support the City's overall strategic direction.

Figure 2. Illustration of the relationship between the Community Strategic Plan, the Official Plan and other City Plans



4.2 OVERSIGHT

Responsibility

Adequate and appropriate personnel to over see the implementation of the Environmental Master Plan are essential. A number of alternatives have been discussed with staff and stakeholders. During the consultation period for the Environmental Master Plan, there were numerous discussions about whether implementation responsibility should lie in a particular department (i.e., Planning or Environmental Services); or since the action plans for the EMP highlight responsibility for many, if not all, departments, whether responsibility should reside in the office of the Chief Administrative Officer (CAO). Therefore, the preliminary consensus is to initially reside the implementation of the EMP in the office of the CAO; it was felt that this will provide momentum for forward movement and will serve to highlight the Plan's strategic corporate importance.

A Committee

Some interviewees felt that a committee structure would be advantageous to draw in various departments in an effort to oversee the implementation of the EMP. Many people suggested having representatives from various departments sit on the committee that meet on a quarterly or monthly basis. Some interviewees even volunteered to be involved and assist on such a committee. The advantage of a committee, according to some, was that it could “reach” into various departments and create accountability.

Clearly, there will also be a need for input and involvement by staff from across the Corporation to implement the EMP. Stakeholders and staff felt that a committee structure, similar to the Steering and Council Committee established for the EMP development process, be established. At this time, the consensus is for the establishment of an EMP Implementation Committee (EIC), with representation from staff at a department head level. It is felt that this will demonstrate and ensure commitment to move forward with the identified action plans. It is also recommended that any such committee should include membership from City Council, as with the EMP development committee.

An Individual to Oversee Implementation

In addition, many respondents felt that the EMP will need a “champion” to generate awareness and build momentum throughout the Plan’s implementation. Some participants felt that the City may need to create a position(s) that concentrates solely on environmental management; this person could be dedicated to managing the EMP.

The general consensus from the stakeholder and staff committees associated with the development of the Environmental Master Plan was that, at the outset, a full-time environmental coordinator, with administrative support, be responsible for follow-up as well as the various other responsibilities inherent in this position such as monitoring, liaison, tracking, etc. It is suggested that the newly created environmental coordinator position report, as discussed above, to the CAO’s office and that the coordinator be provided with the necessary administrative support and funding for communications, meetings, reporting, etc. The full staffing needs for the implementation of the Environmental Master Plan are yet to be determined, and may not be clear until the implementation is undertaken. Staff and stakeholders noted that there may be a need for a “team” to oversee the EMP – communication, education, outreach, monitoring, tracking, reporting, liaison, etc. are all important facets of oversight, and may prove to be onerous for one environmental coordinator.

All respondents were clear that whatever the implementation structure is, it will need to be communicated to staff, Council and the community. Information sharing and communication across City departments and facilities will be essential components of the EMP’s implementation. In addition, communication and partnerships with community groups, industry, schools and residents will also be vital; Windsor is a diverse community and the outreach strategies will need to reach all segments of the population. In addition, the proposed staff person should be at a level in the organization where they can act intra-departmentally, and coordinate the various activities of a number of departments and service areas.

4.3 REPORTING AND COMMUNICATION

Staff, Council, and residents have all expressed a desire to be kept informed about the progress of the EMP and how they can be involved. Therefore, key portions of the action plans are dedicated to communication, education and outreach. Assigning clear responsibility and defining “who’s doing what” in the departmental action plans will assist with this.

At this time, it is proposed that the status of the EMP’s implementation be measured and reported on a biannual schedule. It is likely that performance measures will be used to assess the completeness of the implementation of the objectives. Suggestions will likely be made to tweak the objectives and proposed actions depending upon the progress of the EMP.

In addition, a State of the Environment report is proposed in Objective Ea. This reporting process will involve determining a set of baseline environmental indicators for measurement, collection of data and reporting changes in the indicators on a four-year interval.

Finally, Objective Ea includes a suggestion that the Environmental Attitudes Survey, conducted in fall 2005, be repeated on a four-year cycle. The survey will be used to gauge residents' and staff's views and opinions on environmentally-related issues.

The intervals for key reporting dates are suggested to coincide with Council's terms. It is suggested that the survey and State of the Environment Report be completed near the beginning of the term so that Council may be informed of key issues of concern.

In terms of reporting and tracking the progress of the EMP, it will be important to have consistent and clear systems set in place early in the implementation process to allow for easy reporting. Also, as done with Community Strategic Plan, it is suggested that all reports to Council include a statement of how the issue is linked to the EMP. Others suggested integrating the EMP into annual business planning at the City.

4.4 FUNDING

Many of the activities proposed in the action plans will be conducted by leveraging existing resources within environmental programs across the Corporation. Other initiatives are likely to require additional financial or human resources. These will be identified through both the annual budget process and in the long-term financial plan with resources allocated according to available resources and current priorities.

It is also expected that other sources of funding will be available for many of the environmental initiatives proposed in the action plans through federal incentive programs and other funding agencies. As the City explores incentives and disincentives for responsible environmental management within the Corporation, opportunities for some cost recovery will be identified.

Finally, improving the City's environmental performance will, at times, cost more initially. In the longer term, however, City operational costs will be reduced when resources are used efficiently over time.

The proposal to create a new environmental coordinator position (plus administrative support) will no doubt have an annual budgetary impact in the order of magnitude of \$100,000+. It is therefore intended that the Administration report back to City Council at budget time, with the DPRA report on implementation, indicating a more precise funding formula for moving this important initiative forward.

APPENDIX A: PROCESS TO
DEVELOP THE
ENVIRONMENTAL MASTER
PLAN

APPENDIX A: PROCESS TO DEVELOP THE ENVIRONMENTAL MASTER PLAN

PHASES OF THE ENVIRONMENTAL MASTER PLAN

The Environmental Master Plan process began in July 2005 and is expected to be completed in the summer of 2006.

The project was designed in four phases:

Phase I: Developing the EMP Process (July – Sept. 2005)

Phase II: Developing a Vision, Goals and Principles (Sept – Dec '05)

Phase III: Action Planning and Developing Performance Measures (Jan. – Mar. 2006)

Phase IV: Developing and Finalizing the EMP (Mar. – June 2006)

COMMITTEE STRUCTURE FOR THE ENVIRONMENTAL MASTER PLAN

Three committees were formed to provide guidance and feedback on the Environmental Master Plan. A Technical Committee comprised of City staff from multiple departments met seven times throughout the process and a Steering and Council Committee met at critical junctures to review work products and provided direction and insight. Work on the Environmental Master Plan began in Fall 2005 with the meeting of all committees on September 8.

The development of the Environmental Master Plan was also guided by a group of invited stakeholders. A group of stakeholders met four times throughout the Environmental Master Plan process to provide comments and input into draft components of the Environmental Master Plan.

Committees and stakeholders provided invaluable advice and met to:

- Review the background work completed and the results of the Environmental Attitudes Survey;
- Develop a draft strategic direction, guiding principles and goals;
- Brainstorm potential objectives to support the draft goals; and
- Review objectives and associated action plans.

Committee members and stakeholders are listed in Appendix B.

BACKGROUND DOCUMENT REVIEW

Numerous documents, by-laws, reports, articles and plans have been reviewed to understand the City's existing environmental programs, initiatives and policies. Results of this review are included in Section 2 of this report.

COMMUNICATIONS AND CONSULTATION PLAN

In order that information about the initiation of the Environmental Master Plan reach all of Windsor's residents, a Communication and Consultation Plan was developed. The following activities were undertaken:

- EMP website developed
- EMP highlighted on Windsor's homepage and environmental pages
- Press releases announcing the EMP
- Articles in City-side internal newsletters
- Radio interviews and ads
- Newspaper articles and ads
- Spotlights on A Channel

INTERVIEWS

To better understand the attitudes and interests of City staff and Councillors, 30 in-person interviews with staff, Councillors and the Mayor. The interviews were conducted at the end of September, 2005. Some of the interviews were with small groups of individuals with similar interests or roles. Fifty people were interviewed in total; a complete list of interviewees is included in Appendix B.

The interview questions were also made available on-line to all staff members. Thirty on-line submissions were received.

The results of the interviews influenced the development of the components of the Plan (strategic direction, goals, guiding principles, objectives, etc.)

ENVIRONMENTAL ATTITUDES SURVEY

The EMP committees decided to proceed with the suggestion for an Environmental Attitudes Survey be conducted to understand the community's environmental values and priorities. Over five-hundred telephone surveys were completed between October 24 and November 7, 2005. An on-line version was also available and 40 residents submitted responses over the Internet. In addition, 33 hard copy surveys were received. The complete survey results are included in a separate report (Environmental Attitudes Survey Results, DPRA Canada, November 23, 2005), however the results influenced the development of action plans associated with the Environmental Master Plan.

OPEN HOUSES

Four open houses have been held at Devonshire Mall:

1) Wednesday, October 26 to Saturday, October 29, 2005.

The purpose of the open house was to announce the start of the Environmental Master Plan, to generate public awareness and to understand some of the issues that residents wanted to focus on during the Environmental Master Plan process. Hard copies of the Environmental Attitudes Survey were available and a drop box was provided.

2) Saturday, January 28, 2006

The draft strategic direction, guiding principles, and goals were presented. In addition, the results of the community telephone survey were available. Comment forms and copies of the panels were available for residents to pick up.

3) Saturday, May 28, 2006

The draft strategic direction, guiding principles, goals and objectives were presented. Comment forms and copies of the panels were available for residents to pick up.

4) Saturday July 22, 2006

The open house presented the draft Environmental Strategic Plan. Comment forms and copies of the panels were available for residents to pick up.

For each of the Open Houses, a free-standing information booth (Figure A.1) was set up in the mall. For the duration of the mall's opening hours, City staff and a consultant were present to answer questions and provide information.

At each Open House, between 50 and 75 residents stopped to chat, fill out a survey or inquire about the EMP. Many others stopped to browse the information panels.

In general, residents have been pleased that the City had taken the initiative to proceed with the development of an Environmental Master Plan. Many residents voiced concerns over poor air quality in the City due to industrial emissions and vehicular traffic. Some residents had very specific requests: for instance, the installation of a bike path from Esplanade to Tecumseh Road along Little River. And others felt that the open houses were an opportunity to voice their complaints against proposed traffic routes and border crossings. The staff on-hand were able to listen, direct residents to the appropriate City departments and to explain the intent of the Environmental Master Plan.

Figure A.1. Chris Manzon, EMP Project Manager and Pollution Control Project Engineer, at Open House #1 for the Environmental Master Plan, October 2005



SYNTHESIS OF RESULTS

Results from the survey, open houses, background research, workshops and committee meetings was synthesized and draft action plans were developed. The action plans were reviewed by City staff and stakeholders for completeness, accuracy and realism.

APPROVAL OF THE EMP

The Environmental Master Plan was tabled at a July 10 meeting of City Council and an open house was held on July 22 to allow an opportunity for residents to review and provide comments on the EMP. On July 24, 2006, City Council unanimously approved the Environmental Master Plan. In addition, a detailed implementation plan will be developed for the EMP. Notification at key stages was provided in local newspapers and specifically to all who participated in the process through open houses, surveys and stakeholder meetings.

APPENDIX B: LIST OF
COMMITTEE MEMBERS,
STAKEHOLDERS AND
INTERVIEWEES

APPENDIX B: LIST OF COMMITTEE MEMBERS

TECHNICAL COMMITTEE

The Technical Committee met seven times over the course of the EMP development process.

- Anne-Marie Albidone, Acting Environmental Services Contract Administrator
- Chris Aspila, Policy Planner, Land Information
- Mike Clement, Manager of Parks Development
- Paul Drca, Manager of Environmental Quality
- Wes Hicks, Manager of Transportation Planning
- Steve Kapusta, Policy Analyst, Transportation Planning
- Shahna Kennedy, Policy Planner
- Rob Larret, Transit Windsor
- Chris Manzon, Pollution Control Project Engineer
- Angela Marazita, Supervisor of Fleet, Public Works
- Mark Nazarewich, Legal Counsel
- Melissa Reive, Planning Analyst, Transit Windsor
- Bill Roesel, Manager of Forestry and Horticulture
- Adam Szymczak, Planner I – Development Review
- Kit Woods, Executive Director of Pollution Control Services
- Tom Hunt, Manager of Planning Policy

STEERING AND COUNCIL COMMITTEE

The Steering and Council Committee met six times over the course of the EMP development process.

- Jo-Anne Gignac, Councillor, Ward 5
- Sergio Grando, Executive Director, Hospitality and Facility Management Services
- Alan Halberstadt, Councillor, Ward 3
- Bob Hayes, City Planner
- Ken Lewenza, Jr., Councillor, Ward 4
- Mike Palanacki, Public Works
- Don Sadler, Executive Director of Parks
- Mario Sonogo, Chief Building Official
- Harry Turnbull, Executive Director of Information Technology
- Jan Wilson, Executive Director of Recreation
- Tom Wilson, Councillor, Ward 5
- Kit Woods, Executive Director of Pollution Control Services

APPENDIX B: LIST OF STAKEHOLDERS

Stakeholders were invited to a series of four meetings at the Cleary International Centre to help develop the EMP.

• Mark Bartlett	CAW Windsor Regional Environment Council
• Rebecca Belanger	Conservation Planner, ERCA
• Jim Brown	Director of Engineering, Enwin PowerLines
• Matthew Child	Essex Region Conservation Authority (ERCA)
• Dean Clevett	BASF/WECEC/Chamber of Commerce
• Derek Coronado	Citizens Environment Alliance (CEA)
• Melanie Coultier	Detroit River Canadian Cleanup (DRCC)
• David Cree	Windsor Port Authority
• Ken Drouillard	University of Windsor
• Camila Duarte	Golder Associates
• Terry Dubé	Windsor Bicycling Committee
• Ron Elliott	Windsor Essex County Environment Committee (WECEC)
• Kim Ferguson	Ministry of the Environment (MOE)
• Suzanne Friemann	Citizens Environment Alliance (CEA)
• Dr. Brian Fryer	Director Great Lakes Institute for Environmental Research
• Tom Gelinas	Windsor Bicycling Committee
• Doug Haffner	Great Lakes Institute for Environmental Research (GLIER)
• Tom Henderson	Public Advisory Council (Detroit River Clean-Up)
• Brian Hillman	Director of Planning, Town of Tecumseh
• Cecil Houston	University of Windsor
• Steve Kapusta	City of Windsor
• Justin Kazakevicius	St Clair College
• Karen Lukic	Windsor Essex County Health Unit (WECHU)
• Nicole Mahler	Centre for Environmental Health of Ontario
• Ian Naisbitt	Little River Enhancement Group (Lil' Reg)
• Ken Patterson	EnWin Utilities Ltd
• Mark Petro	Windsor Essex Development Commission
• Norbert Poggio	Windsor Utilities Commission
• John Regier	University of Windsor
• Phil Roberts	Windsor Airport/ Essex County Field Naturalists' Club (ECFNC)
• Peter Seto	Environment Canada, Great Lakes Sustainability Fund
• Igor Siljanoski	Director of Sales, Windsor Chamber of Commerce
• Rod Strickland	School of Visual Arts, University of Windsor
• Dan Taylor	Royal Astronomical Society of Canada (RASC)
• Heather Taylor	Essex-Windsor Solid Waste Authority (EWSWA)
• John Wladarski	Windsor Utilities Commission (WUC)

APPENDIX B: LIST OF INTERVIEWEES AND/OR CONTRIBUTORS TO ACTION PLAN REVIEWS

Department	Personnel	
Administrative Advisory Group (AAG)	Michael Duben John Tofflemire	
Building & Development	Adam Szymczak Mario Sonego	
CAO's Office	Bruno Ierullo Donna Marentette	
City Clerk	Brenda Andreatta	
Communications	Brian Worrall	
Council	Jo-Anne Gignac Alan Halberstat Dave Cassivi Ken Lewenza, Jr.	
CUPE Executive – 82 & 543	Bob Farough Mark MacArthur	
Environmental Services	Wade Bondy Paul Drca Kit Woods Anne Marie Albidone	Chris Manzon John Guidolin Tim Tidridge
Facilities Management	Sergio Grando	
Finance	Onorio Colucci Tony Ardivino	
Fire and Rescue	Dave Fields	
Human Resources	Vincenza Mihalo Julie Ryckman	Linda Smith Rosa Gigliotti
Huron Lodge	Erie McCallum	
Information Technology	Norm Synott	
Mayor	Eddie Francis	
Operations	Mike Palanacki Angela Marazita Karina Richters Wes Hicks Steve Kapusta	Peter Matheson Diana Digirolamo Mark Winterton John Wolf
Parks	Don Sadler Mike Clement Bill Roesel	
Planning	Bob Hayes Chris Aspila Kevin Alexander Jeff Watson	Thom Hunt Shahna Kennedy Jim Yanchula
Purchasing/Legal	George Wilkki Mark Nazarewich	Wira Vendrasco Valerie Critchely
Recreation	Jan Wilson Walter Harry Turnbull	
Social Services	Susan Ellis	
Transit Windsor	Penny Williams Rob Larret Jim Holmes	

APPENDIX C: SUMMARY OF ONGOING ENVIRONMENTAL INITIATIVES IN WINDSOR

APPENDIX C: SUMMARY OF ONGOING ENVIRONMENTAL INITIATIVES IN WINDSOR

The City and its partners are actively engaged in a number of initiatives that are directly or partially related to environmental management. This table summarizes some of those programs, policies, committees and by-laws. Additions, edits and corrections are welcome. Please submit to emp@citywindsor.ca

City By-Law	Description
1. Anti-Idling By-Law	By-law #233-2001 to Prohibit Excessive Idling of Vehicles and Boats was passed on June 18, 2001. According to this by-law, any person who causes or permit a vehicle or boat to idle for more than five minutes in an hour is guilty of an offence. The By-Law contains a list of exceptions.
2. Pesticides By-Law	By-law 35-2006 to Regulate Pesticide Use in the City of Windsor This by-law regulates application of pesticides on residential, commercial, industrial, and public use lands. Different exemptions are also provided in the by-law. The Executive Director of Parks for the City of Windsor is responsible for the administration and enforcement of this by-law.
3. Natural Environment Area Protection By-Law	By-Law #231-2005 to protect Natural Environment Areas in the City of Windsor A by-law to protect natural areas regardless of ownership status (public/private). Natural Environment Areas include Environmental Policy Areas, Natural Heritage, and Candidate Natural Heritage Sites. This by-law covers the protection of trees and natural vegetation that includes woodlands, prairies and wetland areas. The General Manager of Client Services for the City of Windsor is responsible for administration and enforcement of this by-law.
4. Purchasing By-Law	This by-law establishes the authority and sets out the methods by which the City of Windsor shall purchase and dispose goods and/or services. Section 52 of this document deals with the environment: ENVIRONMENTAL CONSIDERATION 52. (1) In order to contribute to waste reduction and to increase the development and awareness of environmentally sound purchasing, acquisitions of goods and/or services will ensure that, wherever possible, Specifications are amended to provide for expanded use of durable products, reusable products and products (including those used in services) that contain the maximum level of post-consumer waste and/or recyclable content, without significant affecting the intended use of the product or service. (2) It is recognized that cost analysis is required in order to ensure that the products are made available at competitive prices.
5. Sewer Use By-Law	A major responsibility of the Pollution Control Laboratory is enforcing the Sewer Use By-Law. This by-law regulates discharges to sanitary and storm sewers. It also mandates the report of spills to City sewers and the completion of a Waste Survey Report by industry.

City Plans and Proposals	Description
6. Bicycle Use Master Plan (BUMP)	<p>The BUMP, a product of an extensive public consultation program, is intended to be a statement of the City of Windsor's commitment to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists. As a 20-year guide, this Plan establishes a vision, guiding principles and goals for cycling in Windsor. The Plan calls for a cycling network of bike lanes, multi-use trails and signed bike routes, and provides design guidelines along with specific strategies for improving cycling awareness, the cycling-transit link and end-of-trip facilities.</p> <p>Cycling Coordinator from the Traffic Engineering Department is responsible for overseeing cycling related issues and development, management, and coordination of implementation of the BUMP.</p> <p>The responsibility for pavement surface maintenance and for on-road cycling network facilities is assigned to the City's Road Operations Division of the Public Works Department.</p> <p>The responsibility for off-road bikeway facilities outside the road rights-of-way is assigned to the City's Parks and Recreation Department and include surface maintenance and snow/debris removal.</p> <p>Maintenance of on-road and off-road bikeway pavement markings and signage is the responsibility of the Traffic Engineering Department.</p>
7. Central Riverfront Implementation Plan	<p>By providing an implementation strategy and design guidelines to the City of Windsor residents, Central Riverfront Implementation Plan will help the City attain its vision of the riverfront. This document will serve both as an illustration of design principles and a reference point for the ongoing development with the immediate, staged and long-term implementation.</p> <p>As a result of consultation with public, proponents and other stakeholders during the preparation of the Plan, following themes emerged: expression of healthy community, natural and cultural heritage, riverfront connections, sustainable approaches to park development, and pedestrian character of the riverfront.</p> <p>This Plan will be reviewed at least every five years. Phasing for the Central Riverfront is based on a first and secondary priority basis over an estimated twenty-five year time frame.</p>

City Plans and Proposals	Description
8. Community Strategic Plan	<p>On January 18, 2003, a strategic planning session resulted in Council's confirmation of the Community Vision, City Mission, Strategic Themes and Objectives of the 1996 Plan. During this session, the themes of the Strategic Plan were reviewed in detail identifying priorities the City should adopt and categorizing these into short and long-term time frames.</p> <p>Councillors and the Executive Management Team then defined, for each priority, the actions the City should undertake, other stakeholders and time frames. As a result, the Strategic Plan's <i>2003 Action Plan</i> was formed and formally adopted by Council on May 12, 2003.</p> <p>For each of the four strategic themes of the <i>Action Plan</i> (Responsive Effective Local Government; Vibrant Economy; Safe Caring Diverse Community; and, Sustainable Healthy Environment) series of priority action items are provided. Each one is associated with expected results (i.e. Outcome/Deliverable), partners (i.e. Stakeholders), time frame and lead responsibility.</p> <p>For the Sustainable Healthy Environment theme the following action items are identified in the Plan:</p> <ul style="list-style-type: none"> • Establish an Environmental Focal Point; • Review all Municipal By-Laws; • Develop Policy and Plan for Green Space; • Establish Role in Environmental Advocacy; and • Ensure Signage for Transportation of Hazardous Materials. <p>The 2003 Action Plan is an update of the 1996 <i>Community Strategic Plan</i>.</p>
9. Community-Based Strategic Rail Study – Proposal	<p>Increased trade flows through the City of Windsor bring some negative impacts, most notably traffic congestion, decreased roadway safety and poor air quality. Review of the environmental impacts of present and future rail operations is included in the scope of this <i>Community-Based Strategic Rail Study</i> (Project).</p> <p>Among the expected outcomes of the Project is the reduction of adverse environmental impacts of transportation in two important ways:</p> <ul style="list-style-type: none"> ▪ Reducing impacts on land use in proximity to rail operations, including noise, vibration, trespassing and safety, visual impacts, drainage and stormwater management, hazardous goods movement, and soil quality. ▪ Both reduction of the number of at grade rail crossings in Windsor and filling the gaps in the arterial roadway grid across abandoned rail lines add to operational efficiency and connectivity of Windsor's roadway system. (This, in turn, will enhance roadway level of service, transit operations and routes for cycling and walking. The resulting transportation system improvements will contribute to reduces air quality emissions, fuel consumptions, travel delays, as to travel time and distance).

City Plans and Proposals	Description
10. Lighting Intensity Standards and Study	<p>Council Resolution 228/2005 approved the adoption of guiding principles for the lighting of private lands, subject to Site Plan Control Approval and incorporation of the principles into a Lighting Standards Manual. Applicable principles to the Environmental Master Plan include the conservation of energy, preservation of the experience of the night sky, respect of the privacy of residential space and the respect of animal habitat.</p> <p>The techniques to implement the guiding principles include employing alternatives to incandescent or mercury vapour lamps, maintaining light levels within a recommended range set, dimming down lighting to minimum levels after normal operating hours, providing full cut-off lighting, locating lamps away from neighbouring properties, parks and naturalized areas.</p>
11. Official Plan	<p>The Official Plan provides guidance for the physical development of the municipality over a 20-year period while taking into consideration important social, economic and environmental matters and goals. As such, the City of Windsor Official Plan provides the policy framework that will guide the following:</p> <ul style="list-style-type: none"> • Where new development can locate • How existing and future neighbourhoods will be strengthened • How Windsor's environment will be enhanced • What municipal services, such as roads, water mains, sewers and parks, will be provided • When and in what order Windsor will grow <p>In order to manage growth consistently with the community vision, achievement of sustainable and healthy environment, including transportation system, waterfront, the greenway system, and healthy ecosystem, are among the key policy directions of the Plan.</p> <p>Council's environmental goals are to achieve:</p> <ul style="list-style-type: none"> ▪ A healthy and sustainable natural environment; ▪ Cooperation and coordination among all stakeholders to maintain a flourishing natural environment; ▪ An awareness, appreciation, and responsibility for the natural environment and its functions and features; ▪ Development that is compatible with environmental functions and features; and ▪ The reduction of pollution. <p>Under the Planning Act, Official Plans are required to be reviewed at intervals of not less than once every five years. The Official Plan review is currently underway.</p>

12. Riverfront Pollution Control Planning Study	<p>The purpose of the study was to investigate direct municipal discharges to the Detroit River along the riverfront area in the City of Windsor north of Riverside Drive, and to develop a pollution control strategy for the Windsor Riverfront District.</p> <p>Phase 1 (completed in 1995) involved identification of all points of wastewater discharge into the Detroit River, determination of the quantity and quality of the wastewaters being discharged under both dry and wet weather conditions and an estimate of their impact on the Detroit River. It was concluded in this phase that the effects of the City of Windsor's combined sewer overflows (CSO) on the quality of water and sediment of the Detroit River were minimal.</p> <p>Phase 2 (completed in 1997) consisted of a review of various pollution abatement measures and evaluation of their application in Windsor with respect to performance, economic, environmental and social implications.</p> <p>Phase 3 (completed in 1999) involved development of recommendations including a list of preferred alternatives and a schedule for implementation. As the preferred option for CSO control in the Riverfront District the City selected the Retention/Treatment Basin option. The implementation tasks for the Pollution Control Plan (PCP) were divided into immediate, short and long term categories based on City priorities, cost/effectiveness, regulatory requirements, and the need for additional study.</p>
13. Solid Waste Management Master Plan	<p>The current review was focused on providing recommendations regarding the future management of waste diversion, summarizing public acceptance and the economic implications of implementing programs to achieve Best Practices Recycling Recovery Rates, as well as on assessing current organic waste composting operations and the feasibility of expanding these operations to include household organic waste.</p> <p>The 2003 review of the Master Plan showed that existing organic waste processing facilities were about to exceed the capacity of the Certificate of Approval conditions by July 2004, and; therefore, Essex-Windsor would not have sufficient organic processing capacity to manage organic waste collected in 2004.</p> <p>The Essex-Windsor Solid Waste Authority – responsible for managing this plan - should conduct the next review of the Master Plan in 2008.</p>
14. The River and Land Sustain Us	<p>In 1994, the City undertook a process to update the Official Plan. The River and Land Sustain Us is a summary of issues identified by workshop participants and provincial agency representatives on environmental issues.</p>

City Plans and Proposals	Description
15. Transit Master Plan and Ridership Growth Strategy	<p>The Study Plan: The Transit Master Plan portion of this study is intended to produce a Policy Document supported by all community stakeholders and utilized to govern the future development of public transit services. The Ridership Growth Strategy will detail how transit services will be improved and ridership targets met.</p> <p>Supporting policy and initiative areas identified for study are transit oriented land use (TOD - Transit Oriented Development), and Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS) initiatives. Recommendations will include service and technical strategies to reduce the community's auto dependence, which will in turn reduce petroleum fuel consumption and thus GHG emissions. The resulting business plan will address service planning policies, an operational plan, vehicle and infrastructure needs and requisite budget projections for the next 10 years (to 2016).</p> <p>Funding: The Province of Ontario has introduced monies to support Public Transit through infrastructure investment funding and the dedication of gas tax revenues. In response to their commitment to reduce Greenhouse Gas Emissions (GHG's), the federal government intends to provide similar funding to encourage transit usage by requiring municipalities to reinvest in their transit systems and developing a Ridership Growth Strategy. Specific environmental and economic performance goals, as well as performance measurement are funding requirements.</p> <p>Related Documents:</p> <ul style="list-style-type: none"> • WATS (1999) Goal of achieving 6% modal split for public transit by 2016; • Community Strategic Plan – Sustainable healthy environment objective • Essex Windsor Regional Transportation Study (EWRTS) • Official Plan Review (Current) Transit friendly development / liveable neighbourhoods • Community Based Strategic Rail Study (Current) City and McCormick Rankin • Environmental Master Plan
16. Windsor Area Long Range Transportation Study (WALTS)	<p>The purpose of the Windsor Area Long Range Transportation Study (WALTS) was to provide the involved municipalities with a master plan to guide future development of transportation services in the Windsor area. The study determined the impacts of population and employment growth on the need for roads, transit, cycling and walking facilities within the area by the year 2016, along with access to air, marine, rail and trucking services.</p> <p>In order to address future transportation system problems in the WALTS area, five alternatives were evaluated using series of criteria, including Natural Environment. The evaluation concluded that Balanced Transportation Demand Management/Structural Improvements alternative offered the best overall performance in meeting future transportation network needs.</p>

City Plans and Proposals	Description
17. Windsor Gateway	<p>In an attempt to solve Windsor's traffic congestion, multi-modal approach involving rail, water, air and surface transport was recommended to the City. A report written by Sam Schwartz evaluated five potential border crossing sites.</p> <p>This study concluded that a bridge (referred to as the "Industrial Crossing") in the vicinity of the Central Crossing touching down in industrial areas of both Windsor and Detroit and spanning a narrow part of the river would best met the objectives of this study. It was suggested that it be linked, via a fully controlled new roadway with Highway 401. Four alternative highway links are presented in this report with recommendations.</p>
City Initiative/ Program	Description
18. Candidate Natural Heritage Sites	<p>As an update on the status of Candidate Natural Heritage Sites (CNHS) in the City of Windsor, this document provides summary of the achieved results and history of the CNHS protection in Windsor since 1992. It is concluded that the current Official Plan framework is deemed to be an effective method for considering environmental significance and protecting natural areas when warranted.</p>
19. Clean Air Day	<p>Clean Air Day, which is part of Environment Week (June 1-7) started some years ago in several Canadian municipalities as a day of grassroots initiatives. It has now a national campaign, embracing both national and local events that celebrate clean air and promote awareness of climate change issues. Clean Air Day is celebrated on the second Wednesday in June each year.</p> <p>The goal of Clean Air Day is to urge Canadians to get out of their single-occupant vehicles and walk, bike or ride, as the first step in a commitment to use sustainable transportation and ensure an improved quality of life.</p> <p>Transit Windsor participated in Clean Air Day on June 8, 2005 alongside the Canadian Urban Transit Association (CUTA) and a number of other government, business and health organizations to encourage Canadians to consider sustainable transportation as their contribution to a healthier environment.</p>
20. Earth Day	<p>Earth Day is a nation-wide event held every April 22 across Canada and the world. It is an opportunity for environmental awareness building in businesses and schools.</p> <p>Transit Windsor provided a free shuttle bus service during the Windsor-Essex County annual Earth Day celebration on April 24, 2005. This initiative is part of the Transit Windsor's campaign to increase ridership.</p>
21. Energy Audit	<p>Windsor is in the process of procuring a consultant to develop an energy audit of the City's facilities. The aim of the project will be to recoup the costs of the audit through energy savings over time.</p>
22. Garbage Collection	<p>The City of Windsor provides curbside and alley garbage pick-up on a weekly basis. The frequency of service in Windsor is higher than other Ontario municipalities (52 vs. 48 pick-ups per year). Bulk trash days, large metal item pick-up and yard waste collection are other free services.</p>

City Initiative/ Program	Description
23. Household Chemical Waste (HCW) Depot and Reuse Centre	At the Household Chemical Waste (HCW) Depot and Reuse Centre Windsor residents can drop off, free of charge, paint, fuels, pesticides, home repair and automotive waste, as well as thermometers, pool chemicals, glues, adhesives, driveway sealer, fluorescent lights, and batteries. They can pick up any of the products that were used, but not used up, free of charge as well. The average visit time for a resident is 20 minutes.
24. Information Technology – Environmental Initiatives	<p>The Information Technology Department is doing the following environmentally-friendly initiatives:</p> <ul style="list-style-type: none"> • Proper disposal of used equipment • Recycling via giving old equipment to charity • Moving towards new software that allows staff to turn computers off at night to conserve energy (Wake on LAN) • Recycling toner
25. Litter Hotline	The Litter Hotline is a Clean City Committee initiative that deals with illegal dumping and littering. Residents can report about these activities either electronically by filling an online form or by calling a 24 hours message hotline. They are requested to describe an offender, vehicle, type of litter, and location where it happened, as well as to provide their contact information. Warnings to offenders can be given, and charges can be laid immediately if a police officer catches someone dumping litter illegally.
26. Lou Romano Water Reclamation Plant Upgrade & Expansion Project	The City is spending \$110 million on the water treatment plant upgrade to secondary treatment using cutting-edge technology such as Biological Activated Filter (BAF) process and Ultraviolet Disinfection.
27. Mercury Take-back Program	This is a cooperative program initiative to teach the importance of proper chemical disposal. The Mercury Take-Back Program encouraged people to return items containing mercury to the Household Chemical Waste (HCW) Depot and Reuse Centre. The Program was coupled with a successful public awareness program and exceeded its initial expectations.
28. Parks	<p>Parks and Recreation provides residents and visitors with over 3,000 acres of green space in 180 parks featuring gardens, over 35 sculptures, numerous fountains, playing fields and picnic areas.</p> <p>The Department is also responsible for beautification efforts such as planting formal gardens, boulevards and the riverfront with thousands of flowers, plants, and shrubs.</p> <p>The Windsor Trail, an interlocking network of biking and walking trails, currently extends along the Detroit River and links many neighbourhoods.</p> <p>Parks and Recreation is also responsible for the care and maintenance of the urban forest with 60,000 trees on streets and an additional 35,000 trees in parks and public spaces.</p> <p>Research and development is underway to investigate the feasibility of making Peche Island 100% self-sustaining by using solar and wind power.</p>

City Initiative/ Program	Description
29. Sanitary and Storm Sewers	<p>The Sewer Maintenance Division maintains the City's wastewater transmission network, consisting of 1544 km of sanitary and storm sewer, 164.8 km of municipal drain, and 404.4 km of roadside ditches.</p> <p>The division conducts preventative maintenance and repair on sewer mains, manholes, catch basins, and municipal drains and ditches. Services provided by the division include:</p> <ul style="list-style-type: none"> • Flushing and rodding of sewer mains • Catch basin cleaning/repair • Manhole repair/replacement • Ditch clearing and culvert repair • Surface drainage • Watercourse management • Eel service
30. Smog Advisories	<p>The Ministry of Environment notifies Ontario residents when poor air quality is expected. If forecasts indicate that the Air Quality Index (AQI) may exceed a reading of 50, over a wide geographic area, the MOE will declare either a “smog watch” (50 per cent chance that poor air quality will occur within the next three days) or a “smog advisory” (a high probability that poor air quality will occur within next 24 hours). The City distributes information about smog advisories.</p> <p>A pilot program saw Transit Windsor providing free transit on smog action days during Summer 2003.</p>
31. Storm Water Management System	<p>Stormwater management is “the mechanism for controlling storm water runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.” (IPRO 371).</p>
32. Transit Windsor Environmental Initiatives	<p>Transit Windsor is actively involved in a number of initiatives with positive environmental results. Some of these are listed:</p> <ul style="list-style-type: none"> • Smog action days – in 2003, Transit Windsor provided four days of free transit and ridership increased 45%. However, funding for this was through Environment Canada and the City of Windsor and has not been continuous. • Development of a Transit Master Plan (see above) • The Board of Directors – adopted an emission reduction protocol linked to replacing the fleet to more efficient vehicles. • Transit Windsor (TW) is also looking at hybrids or alternative fuels • TW was one of the first to use low sulphur diesel • Brake shoes are re-used • A lot of in-house rebuilding takes place (i.e., starters, alternators, engines, transmissions) • Used oil is recycled –TW started this program and Windsor Purchasing has since adopted it • Batteries are removed by suppliers • Hazardous materials are properly stored and then picked-up • Fluorescent light tubes are recycled

City Initiative/ Program	Description
33. Urban Forestry	The purpose of this document is to provide instructions on tree management (trimming or removing trees on the right-of-way, driveways, alleys, near energized lines) and protection (i.e. construction near trees or sewer clean out and reconstruction when tree roots invade sewer pipes). In addition to the safety operation procedures and forestry pesticide use, this manual deals with instructions on how to conduct a tree inventory.
34. Waste Management Guide	The City offers a comprehensive guide on waste management for residents: it includes information on the disposal of different types of waste, including location and business hours of the public drop off depot, bulk trash days and contact information.
35. Yellow Fish Road Program	Trout Unlimited Canada's Yellow Fish Road™ program is a nation-wide environmental education initiative. Yellow Fish Road™ volunteers paint “yellow fish” symbols next to storm drains and distribute fish-shaped brochures to nearby households, to remind people that anything that enters the storm drain system ends up in the local waterbody. It helps Canadian youth to learn about their water supply and the impact it has on the health of their community. The Program is active in Windsor.
Community Group/ External Agency	Description
36. Canadian Auto Workers Windsor Regional Environmental Council (CAW WRAC)	<p>Windsor Regional Environmental Council represents over 45,000 Canadian Auto Workers (CAW) members in Windsor-Essex, Chatham-Kent, and Sarnia-Lambton.</p> <p>The purpose of forming the CAW Windsor Regional Environment Council is to unite the CAW Locals of Windsor and the surrounding area into one collective voice regarding environmental and related issues in both community and in workplaces.</p> <p>The Council's main objective is to integrate the environmental movement socially, economically and politically. Additionally, it encourages participation with all levels of environmental decision making.</p>
37. Citizens Environmental Alliance of Southwestern Ontario and Southeast Michigan	Based in Windsor, the Citizens Environment Alliance (CEA) is a “non-profit, grass-roots, binational, education and research organization committed to an ecosystem approach to environmental planning and management.” The organization is serving southwestern Ontario and southeast Michigan.
38. Detroit River Canadian Cleanup (DRCC)	The purpose of the Detroit River Canadian Cleanup (DRCC) is “to clean up, enhance, and sustain the ecosystem of the Detroit River and its watershed.” As such, the key goal of the effort is to have the Detroit River permanently delisted from the international list of Areas of Concern under the Great Lakes Water Quality Agreement.
39. ENWIN	<p>ENWIN Utilities Ltd. is a managed services company providing billing, credit, financial and customer service, as well as Help Desk support on behalf of ENWIN Powerlines, Windsor Utilities Commission, MaXess Network™ and The City of Windsor.</p> <p>ENWIN Powerlines, Windsor's local distribution company, is responsible for the transmission and distribution of electricity as well as the service and maintenance of Windsor's powerline infrastructure.</p>

Community Group/ External Agency	Description
40. Essex County Field Naturalists' Club	<p>The Essex County Field Naturalists' Club is a volunteer organization affiliated with the Federation of Ontario Naturalists (FON) and the Canadian Nature Federation (CNF).</p> <p>The objectives of the Essex County Field Naturalists' Club are:</p> <ul style="list-style-type: none"> • to promote the appreciation and conservation of the diverse natural heritage of Essex County and the surrounding region. • to provide opportunities for people to become acquainted with and better understand the natural environment. • to promote the identification, preservation, maintenance and restoration of natural habitat areas. • to co-operate with and support other organizations with similar objectives.
41. Essex Region Conservation Authority	<p>The Essex Region Conservation Authority (ERCA) manages the natural resources of the Essex Region in partnership with the City of Windsor, County of Essex, the Township of Pelee Island, and the Province of Ontario.</p> <p>The organization is empowered through provincial legislation to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals.</p> <p>By the year 2020, ERCA is committed to achieve a sustainable, balanced environment with healthy watersheds, highlighted by clean creeks and rivers, thriving natural areas and productive agricultural lands. ERCA's approach to managing natural resources on a watershed basis, upstream, downstream, in urban and rural areas is the way to achieve this goal.</p> <p>ERCA offers a range of programs and services aimed at protecting and improving natural environment. Some of these include protecting homes and people from the dangers of flood and erosion, natural areas restoration, conservation education, grants to improve the environment, opportunities to get involved in cleanup and restoration and others.</p>
42. Essex-Windsor Solid Waste Authority (EWSWA)	<p>Essex-Windsor Solid Waste Authority (EWSWA) is a municipal agency created by the County of Essex and the City of Windsor to provide waste management programs and facilities for the residents and businesses in the County and the City. These include: Landfill Sites, Transfer Stations, Blue Box Recycling Collection, the Household Chemical Waste (HCW) Depot and Reuse Centre facilities and programs, white goods collection, recycling and other waste reduction and public education programs.</p>
43. Little River Enhancement Group	<p>In 1991, the Little River Enhancement Group (Lil' REG) was created as a non-profit umbrella group by educators and representatives of a number of agencies, including the City of Windsor. Accordingly, Lil' REG "adopted" the Little River Watershed, which drains portions of the Town of Tecumseh and the City of Windsor. Several local schools and community volunteers have helped with Lil' REG's efforts to improve the quality of the watershed ecosystem.</p>

Community Group/ External Agency	Description
44. Windsor Utilities Commission (WUC)	<p>Windsor Utilities Commission, formed in 1935, manages and controls the treatment and distribution of water to the City of Windsor and surrounding regions, provides water testing through their accredited laboratory, and provisions District Energy in the downtown core of the City of Windsor. It is responsible for supplying water to 60,000 residential homes, 8,000 businesses, and for ensuring the quality and purity of the City's water.</p> <p>The Windsor Utilities Commission is the first utility in Ontario, and among the leading edge utilities in North America, to offer ozone as a treatment process.</p>
45. Windsor Essex County Health Unit	<p>Under the authority of the Health Protection and Promotion Act, the Windsor-Essex County Health Unit (WECHU) promotes and protects the health of the community. The WECHU focuses on issues such as: community health, disease prevention, healthy families, schools and workplaces</p>
City Committees	Description
46. Clean City Committee	<p>The Clean City Committee is a non-profit organization dedicated to improving Windsor's environment and economy through public education, community beautification, graffiti abatement and litter awareness programs. It is involved in:</p> <ul style="list-style-type: none"> • Implementing and managing the Litter Hotline Program • Organizing and coordinating the spring and fall Rose City Clean Sweeps • Providing support and supplies to citizens organizing their own litter cleanups • Presenting presentations to schools, community groups, labour and business associations • Developing programs targeting new citizens and new drivers to Windsor • Encouraging citizens to make the Tidy Town Promise, • Promoting litter awareness all across Windsor
47. Planning Advisory Committee (PAC)	<p>The Planning Advisory Committee makes recommendations to City Council on a variety of planning matters such as plans of subdivision, condominiums, rezoning applications, and amendments to the Official Plan. PAC is appointed by City Council to listen to the concerns of citizens and developers and to evaluate recommendations made by Development Planners and consists of both elected City Councillors and people appointed by City Council. There are nine members including a chairperson. PAC meetings are an open public forum where anyone concerned about a proposal can ask questions. Staff from various municipal departments and external agencies attend the meeting in a resource capacity.</p>
48. Windsor Bicycling Committee	<p>The purpose of the Committee is to enhance the safety and viability of bicycling in the City of Windsor. It acts as an advocate for the growth of bicycling as "a form of recreation and transportation that is affordable, energy efficient, non-polluting, quiet, and promotes fitness."</p> <p>The Committee acts as an advisor to Council and City departments on matters relating to bicycling in Windsor.</p>

City Committees	Description
49. Windsor Essex County Environment Committee	The Windsor-Essex County Environment Committee (WECEC) has a 19 member Steering Committee and was formed to advise the City of Windsor and County of Essex on ecological and environmental issues. It is an active group with a wide range of representatives from agencies, the City and County.
Other Initiatives	Description
50. Green Corridor	The Green Corridor is a initiative for generating a green redevelopment of the international bridge corridor linking Canada to the United States. The proposed Green Corridor is 2 km in length and can be used for educational purposes. It is partnership between many agencies including: the University of Windsor, City of Windsor, local schools, industry, and community interest groups.
51. One Million Trees	One Million Trees is a coalition of community partners whose goal is to plant one million trees over ten years. It has an environmental and educational component. The environmental goals will build two Windsor nurseries to diversify Essex County's Carolinian tree species as well as encourage the volunteer planting of 100,000 trees each year. The educational goals will raise public awareness about the One Million Trees project and the importance of trees in our community. The launch of a user-friendly resource website for public use is another major component in this project.
52. White Paper	<p>This document is about the Ontario Government's plans and commitments to protect both the quality and quantity of the provincial drinking water. The White Paper is intended to demonstrate to Ontarians that the protection of public health after the Walkerton tragedy is paramount to the provincial government.</p> <p>The purpose of this White Paper is:</p> <ul style="list-style-type: none"> • To inform Ontarians of the proposed approach for the development of a watershed-based source water protection program, including how stakeholders and the public will be involved; • To describe the legislative framework proposed for the development and approval of source water protection plans; and • To examine ways of ensuring Ontario has a sustainable supply of water by enhancing its management of water takings, including improvements to the Ministry's water takings program and the development of a framework that would govern how those who take water should be charged. <p>The Ontario government was planning to introduce legislation that would make locally developed source water protection planning mandatory in watersheds across the province. This was consistent with the recommendations of Commissioner O'Connor in the <i>Part Two Report of the Walkerton Inquiry</i> and of the Advisory Committee on Watershed-based Source Protection Planning. Detailed regulations would also be developed to support the source water protection planning process.</p>

APPENDIX D: WORKS CITED AND RELEVANT SOURCES

APPENDIX D: WORKS CITED AND RELEVANT SOURCES

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RELEVANT LINKS

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http://www.mah.gov.on.ca/userfiles/HTML/nts_1_3305_1.html
- Canada Strategic Infrastructure Fund
http://www.infrastructure.gc.ca/csif/index_e.shtml
- Clean Water Act
<http://www.ene.gov.on.ca/envision/water/cwa.htm>
- Gas Tax Agreement
http://www.infrastructure.gc.ca/ndcc/agreements/gt_can_ont_e.shtml
- Provincial Policy Statement
http://www.mah.gov.on.ca/userfiles/HTML/nts_1_8198_1.html
- Safe Drinking Water Act
<http://www.ene.gov.on.ca/envision/water/sdwa/index.htm>

APPENDIX E: GLOSSARY AND LIST OF ACRONYMS

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Term	Explanation
Action	Time-sensitive and quantifiable items that must be undertaken to achieve the objective
Action Plan	The overall plan to achieve specific objectives. Answer the “what,” “when,” and “who” questions associated with the EMP. Indicators can be measured through monitoring and tracking.
AOCs	Areas of Concern: Areas of the Great Lakes basin which show severe environmental degradation.
AQI	Air Quality Index: an indicator of air quality, based on hourly pollutant measurements of some or all of the six most common air pollutants: SO ₂ , NO ₂ , PM _{2.5} , O ₃ , CO ₂ and total reduced sulphur compounds ¹
BAQS	Border Air Quality Strategy: Cross-Border agreement which sets out a commitment to develop joint, innovative air quality pilot projects in the Great Lakes area.
Brownfields	Lands on which industrial or commercial activity took place in the past and that may need to be remediated before they can be used for alternative purposes (e.g. recreation, retail, etc.).
BUMP	Bicycle Use Master Plan: A Windsor initiative to develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists.
C-2000	Refers to the “C-2000 Program for Advanced Commercial Buildings” The goal of the program is to demonstrate the feasibility of achieving a high level of energy and environmental performance through the application of modern technologies in modern commercial facilities
Canada Strategic Infrastructure Fund	A \$4 billion investment by the federal government to large-scale infrastructure projects across the country for projects designed to promote safer and faster movement of people and goods on Canada’s major land transportation routes; reduced production of greenhouse gases and airborne pollutants; More effective urban development; Increased economic activity and the use of innovative technologies and practices to minimize greenhouse gas emissions
CAO	Chief Administrative Officer: Administrative position which supervises the day to day operations of the City.
CAW WREC	Canadian Autoworkers Union Regional Environmental Council: CAW Windsor Regional Environment Council is to unite the CAW Locals of Windsor and the surrounding area into one collective voice regarding environmental and related issues in both community and in workplaces.
CCAF	Climate Change Action Fund: Mechanism by which the Government of Canada fund the Partners for Climate Protection (PCP).

¹ http://www.airqualityontario.com/science/aqi_description.cfm

Term	Explanation
CCP	Cities for Climate Protection: An international partnership of over 600 communities and governments committed to reducing greenhouse gases and acting on climate change. The Partners for Climate Protection (PCP) is the Canadian component of this partnership.
CEA	Citizens Environmental Alliance: a “non-profit, grass-roots, binational, education and research organization committed to an ecosystem approach to environmental planning and management.”
CEAA	Canadian Environmental Assessment Agency
CO	Carbon monoxide: a toxic air pollutant
CO ₂	Carbon dioxide: a non-toxic greenhouse gas
CSO	Combined Sewer Overflow: A wastewater management system which discharges excess sewer flow into the Detroit River in an attempt to reduce flooding.
CSW	Center for Sustainable Watersheds: Non-governmental, non-profit organization dedicated to facilitating community involvement in water resource protection in Canada.
CUTA	Canadian Urban Transit Association
CWQG	Canadian Water Quality Guidelines: A mechanism to track and monitor water quality.
DRCC	Detroit River Canadian Cleanup: A plan designed to clean up, enhance, and sustain the ecosystem of the Detroit River and its watershed. Goal is to have the Detroit River permanently de-listed from the international list of Areas of Concern under the Great Lakes Water Quality Agreement.
ECFNC	Essex County Field Naturalists Club: Volunteer organization which promotes the appreciation and conservation of the natural heritage of Essex County and the surrounding region. ²
EMP	Environmental Master Plan: A guiding document for a city or municipality in regard to environmental issues. This EMP focuses on actions the City of Windsor can take to protect and improve its environment over the short and long term.
Energy Star	A symbol is which identifies products that are among the most energy-efficient on the market. ³
ERCA	Essex Region Conservation Authority: Authority which manages the natural resources of the Essex Region in partnership with the City of Windsor, County of Essex, the Township of Pelee Island, and the Province of Ontario.
EWSWA	Essex-Windsor Solid Waste Authority: Group responsible for implementing and managing the Solid Waste Management Plan
FLAP	Fatal Light Awareness Program: This program recognizes buildings that conduct building management with a goal of reducing bird collisions with windows. One of the easiest things to do is to turn out building lights at night (which also conserves energy).

² <http://www.ojibway.ca/ECFN.htm>

³ <http://oee.nrcan.gc.ca/energystar/english/consumers/index.cfm>

Term	Explanation
Full cut off luminaires	The accepted method of light pollution control is through full cut off luminaires. These fixtures have flat lenses and are positioned horizontally so that no light escape above the horizontal.
Goals	General statements of desired ends to be achieved over an unspecified period of time. A specific expression of the strategic direction for the EMP. Not expected to be measurable.
GHG	Greenhouse Gas Emissions: Greenhouse gases (GHGs) are gases in the atmosphere that trap energy from the sun. GHGs include carbon dioxide, methane and nitrous oxide. Increased GHG emissions could be leading to climate change. ⁴
Greenbelt Act/Greenbelt Plan	The <i>Greenbelt Act, 2005</i> enables the creation of a Greenbelt Plan to protect about 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe from urban development and sprawl. ⁵
Greenway System	A network of natural environment and recreational elements including community and regional parks, recreation ways, natural heritage sites, waterfront recreation areas, street trees, the City's urban forest and other greenspaces and green infrastructure within the City limits.
GLIER	Great Lakes Institute for Environmental Research: A University of Windsor research center focused on the Great Lakes Basin.
GLSF	Great Lakes Sustainability Fund: GLSF provides financial support to projects that implement remedial actions to complete the cleanup and restoration of designated Areas of Concern in the Great Lakes Basin.
HCW	Household Chemical Waste: Everyday household chemicals that must be disposed of in at designated centers. Includes items such as house paint, batteries, fuels and pesticides.
Indicator	A measure to assess the degree of success in meeting proposed actions. It is a single measurable feature.
LEED	A certification given to building projects that have demonstrated a commitment to meeting higher performance standards in environmental responsibility and energy efficiency. ⁶
LEDs	Light Emitting Diodes: A long lasting electronic device that emits visible or infrared light when current passes through it.
Light pollution	Any luminous source that causes adverse effects on the night time environment through glare, light trespass and skyglow.
Lil' Reg	Little River Enhancement Group: a non-profit umbrella group by educators and representatives of a number of agencies which works to improve the water quality of the Little River watershed
MOE	Ministry of Environment: Provincial ministry responsible for the protection and administration of the environment ⁷

⁴ http://www.ec.gc.ca/pdb/ghg/about/FAQ_e.cfm

⁵ http://www.mah.gov.on.ca/userfiles/HTML/nts_1_22185_1.html

⁶ http://www.cagbc.org/green_building_projects/leed_certified_buildings.php

Term	Explanation
NPRI	National Pollutant Release Inventory
NAPS	The National Air Pollution Surveillance Network
NO _x	Nitrogen oxides (in general): Strong precursors of smog.
NO ₂	Nitrogen dioxide : A gaseous air pollutant and also a greenhouse gas.
Objectives	Specific statements of the general goals. Each objective is associated with an action plan
Places To Grow	Places to Grow is part of the provincial government's strategy to accommodate and manage future growth by encouraging rational and strategic long term planning in the so-called "Golden Horseshoe" region.
PCP	Partners for Climate Protection : a network of more than 132 Canadian municipal governments who have committed to reducing greenhouse gases and acting on climate change.
PM _{2.5}	Particulate matter : A component of smog and a form of air pollution.
PPS	Provincial Policy Statement : In this context, refers to the provincial policy to "provide direction on matters of provincial interest related to land use planning and development, and promotes the provincial "policy-led" planning system."
PWQO	Provincial Water Quality Objectives : A mechanism to track and monitor water quality
RASC	Royal Astronomical Society of Canada
R-2000	Homes built to specific standards to ensure high energy efficiency and environmentally efficiency. ⁸
Smog	Descriptive term given to a noxious mixture of air pollutants: including gases and fine particles that can often be seen as a brownish-yellow or greyish-white haze. ⁹
SO ₂	Sulphur dioxide : a gaseous air pollutant and precursor of smog and acid rain.
Solid Waste Management Plan	Plan which provided recommendations regarding the future management of waste management in Windsor.
State of the Environment Report	A proposed report which will examine the environmental focus areas that Windsor would like to track over a four year cycle. The State of the Environment will include a representation of land, air, water and energy issues in the indicators.
Strategic Direction	An inspirational, future-focused, timeless statement describing the desired outcome for the Environmental Master Plan.
Step	The individual tasks that need to be taken to aptly achieve the action. It is possible to have multiple steps for each single action
TDM	Transportation Demand Management

⁷ <http://www.ene.gov.on.ca/envision/org/org-moe.htm>

⁸ <http://r2000.chba.ca/>

⁹ http://www.msc.ec.gc.ca/cd/factsheets/smog/index_e.cfm

Term	Explanation
Time Frame	Indication of the time period in which a step will be initiated or completed
TOD	Transit Oriented Development
TMP	Transit Master Plan: Policy Document supported by all community stakeholders and utilized to govern the future development of public transit services.
VOC	Volatile Organic Compounds: Volatile organic compounds, including benzene and formaldehyde, which are precursors of smog.
WALTS	Windsor Area Long Range Transportation Study: Study designed to provide the involved municipalities with a master plan to guide future development of transportation services in the Windsor area.
WECEC	Windsor Essex County Environment Committee: Steering Committee which advises the City of Windsor and County of Essex on ecological and environmental issues.
WPPI	Wind Power Production Incentive
WUC	Windsor Utilities Commission: Utility responsible for supplying water to 60,000 residential homes, 8,000 businesses, and for ensuring the quality and purity of the City's water.